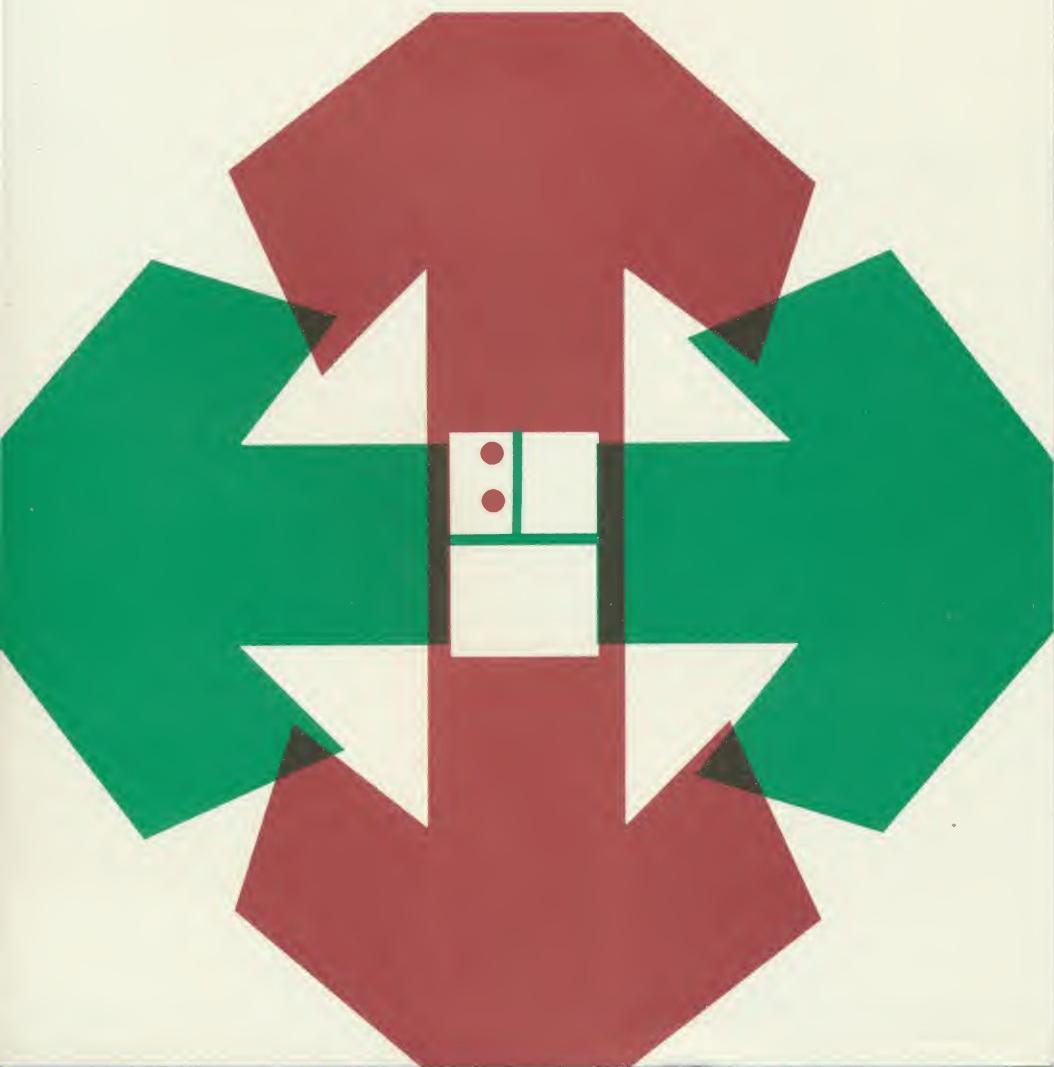


the first
truly
multi-purpose
data
terminal

THE
DIGITRONICS
DIAL-O-VERTER
D522



MULTI-PURPOSE

The D522 is a highly versatile, high-speed data communications terminal and much more—it is the keystone of a complete data exchange and data conditioning system. The D522 is the natural companion to today's electronic data processing systems—powerful and completely modular across the full span of data processing functions—the first truly multi-purpose data terminal.

FOR DATA COMMUNICATIONS, the D522 operates with all line services, from Teletype to Telpak, at full speeds.

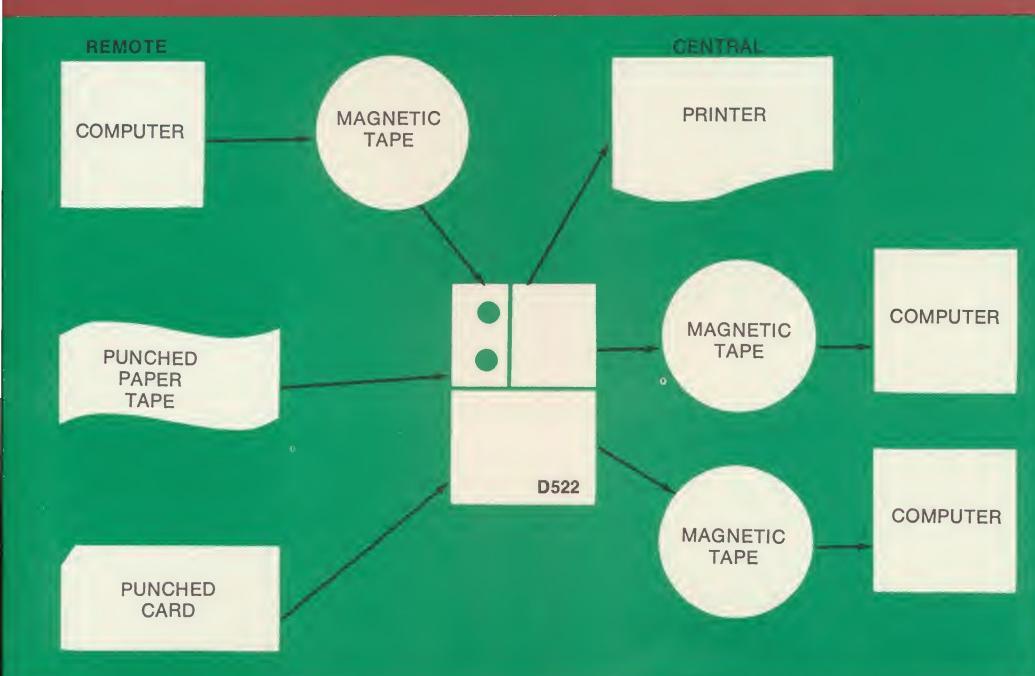
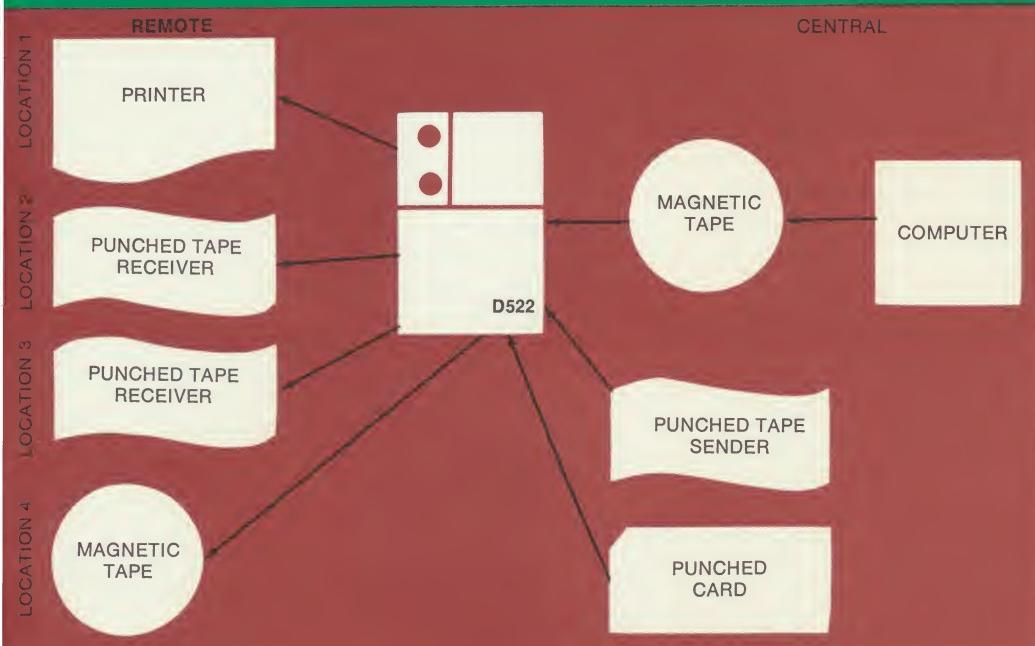
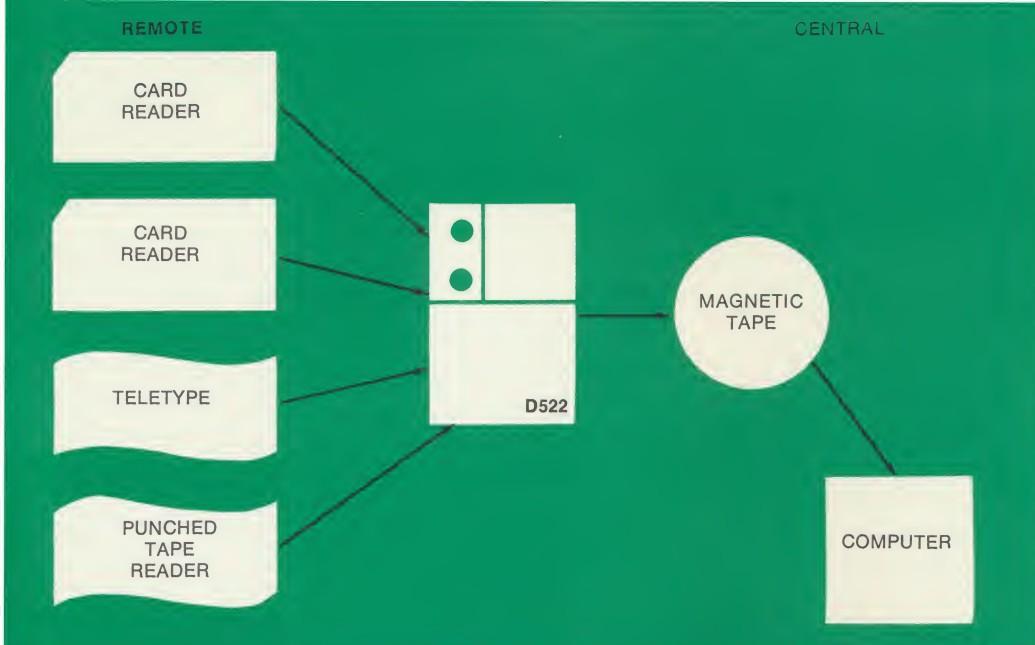
FOR DATA CONDITIONING, the D522 can translate and format data in a multiplicity of codes.

FOR DATA EXCHANGE, the D522 collects and transfers data among the full range of data processing equipment—through communications lines or completely off-line.

The D522 grows with user needs in modules, on the building-block approach. It will bring operating economies at all systems levels, by

- full utilization of data communications lines
- replacement of a number of special-purpose terminals
- replacement of satellite data processing equipment





DATA EXCHANGE

The D522 Data Terminal is remarkable in its ability to exchange data between a great variety of input/output devices

- between central and remote locations
- within one location

The D522 can act as the core of a data collection network.

The D522 can control output at remote locations.

The D522 can act as an off-line data converter.

- It performs all the work needed for the computer to operate at its *maximum* input/output speeds
- It replaces expensive off-line satellite equipment
- It is fast and accurate in getting data from one place to another

The D522 is the ideal companion to a modern data processing system.

THE MODULAR BUILDING BLOCK APPROACH

The Keystone

The D522 starts out as a magnetic tape terminal, sending or receiving at line speeds, and equipped with 1024 character core memory and controls, at a base price of \$1240 monthly (\$54,500 purchase).

Expansion

Modest expansion of the D522 might add a Digitronics Dial-o-verter D401, a 300 line per minute printer to operate from remote magnetic tape input and to provide off-line tape to printer conversion. Further additions might involve

- a Dial-o-verter D512 punched card transmitter/reader (up to 400 cards per minute)
- a Dial-o-verter D507R punched tape receiver (up to 100 characters per second)
- a Dial-o-verter D507S punched paper tape transmitter (up to 300 characters per second)

Greater Versatility

The above examples only hint at the versatility of the D522 Data Terminal. A great variety of Digitronics Dial-o-verter high and low speed devices is available for all needs. Not only is the D522 fully compatible with all Dial-o-verter terminals, but it is also fully compatible with terminal and input/output equipment of IBM, Univac, RCA and other manufacturers.

D522 BUILDING-BLOCK OPTIONS

- Dial-o-verter paper tape receivers and reader modules
 - Read at 150, 300 or 600 characters per second
 - Punch at 100 characters per second
- Dial-o-verter printer modules at 300, and 1250 lines per minute
- Dial-o-verter card reader module
 - Reads at 400 cards per minute
 - Transmits at 151 to 250 cards per minute
 - higher speed transmission available
- Fixed Code Translator, for operation in a code other than BCD
- Controlled Card Translator, for multiple code translation
- Broadband Subset Coupler, for switching between voice and broadband lines
- Interlaced Memory, for higher speed on-line printing rate
- Compatibility with non-standard terminals and input/output equipment of other manufacturers
- Dual Density Magnetic Tape Handler

DATA COMMUNICATIONS

The heart of the D522 is a high-speed, solid-state, data communications terminal. It transmits and receives on computer-compatible magnetic tape, at speeds limited only by available lines and the remote terminal devices. All standard telephone services (such as the Bell System's DataPhone series) can be used by the D522. Broadband transmission services (such as Telpak) break the 300 character a second barrier and make it possible for the D522 to transmit at 60,000 characters a second or more.

FULL UTILIZATION The D522 can minimize line and transmitter time lost to "turnaround" for acknowledgement and error signalling. "Reverse Channel" coupler feature performs these functions with substantially reduced transmission delay. Economic use of communications lines and equipment is a prime objective of the D522. Lines need only be paid for when used, and where private or wats lines are available for voice communications, the D522 can be used off-hours at no additional cost.

ERROR PROTECTION Error checking and correction is built into the D522 Data Terminal. These guard against loss of a record and against character errors within a record. Retransmission occurs whenever these conditions are detected. Read- after- write error detection is built into the magnetic tape handler.

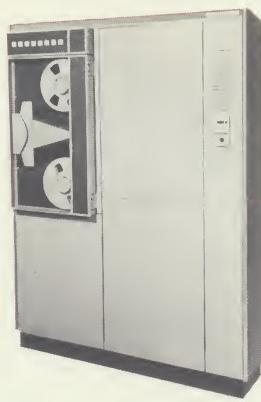
REMOTE CONTROL Remote control of receiving terminals is available. A remote printer, for example, can be turned on and off and print under the complete control of the D522.

DATA CONDITIONING

- The D522 can accept and translate all tape, computer and data communications codes.
- Coded characters are blocked and formatted during transmission or translation.
- Error checking on transfer or transmission is complete.

Thus, the D522 can handle 5 to 8 bit teletype code, six bit BCD codes, 8 bit computer codes (double numeric), and the full ASCII code.

Dial-O-Verter Terminals compatible with the D522 Data Terminal



D520 Magnetic Tape Terminal



D401 High Speed Printer



D507S Paper Tape Transmitter



D507R Paper Tape Receiver

not illustrated: D512 Punched Card Transmitter

For further information, full specifications and prices, contact

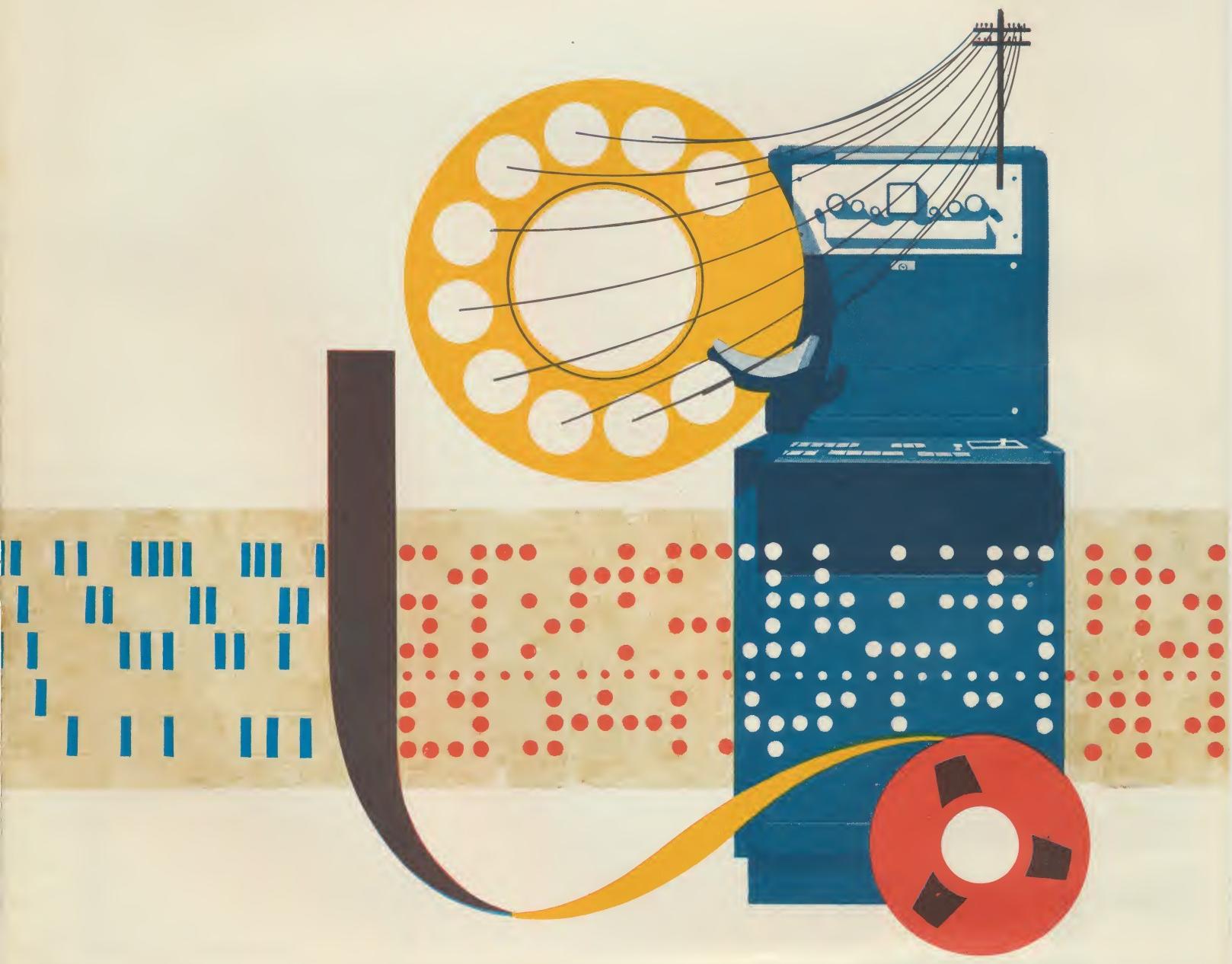


DIGITRONICS CORPORATION

ALBERTSON, LONG ISLAND, NEW YORK Area Code 516, HT 4-1000



DIGITRONICS DIAL-O-VERTER DATA COMMUNICATIONS SYSTEMS



*Wherever your data is, Wherever
it must go, Whatever the Media,*

DIAL-O-VERTER SPEEDS IT OVER TELEPHONE LINES

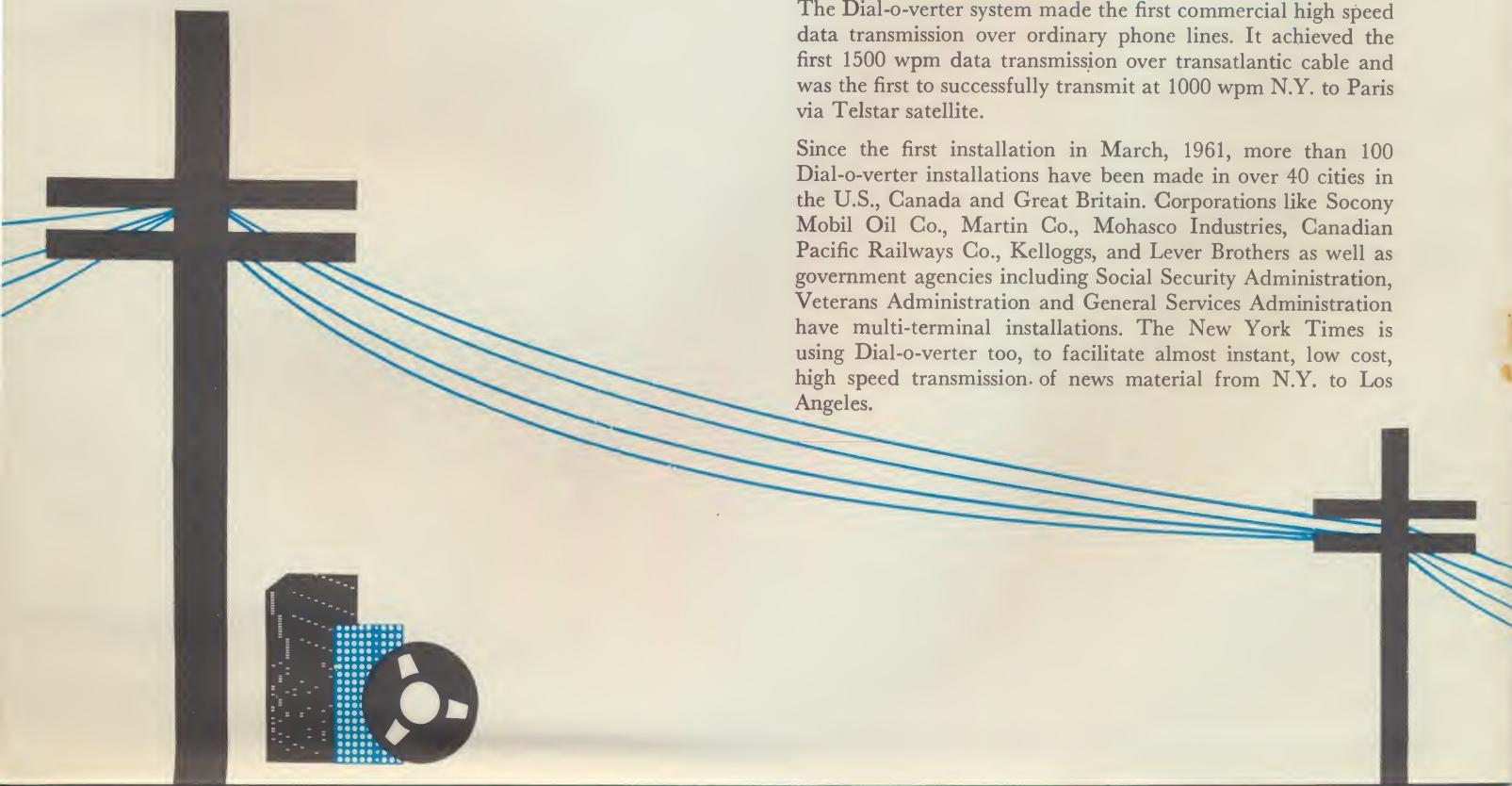
The Modern Communications System That Speeds Your Business Data Anywhere Over Regular Telephone Lines! The Digitronics Dial-o-verter system can easily save as much as \$50,000 a month on coast to coast transmission of data, without the uneconomical use of computers. This frees the computers to be utilized at maximum efficiency in areas for which they were designed. The Dial-o-verter system will transmit and receive your business data over voice grade telephone lines (broadband and microwave, too) at high speeds anywhere and everywhere throughout your company's operations—wherever there's a telephone. It functions with the Bell System Data-Phone and Telpak facilities.

■ Dial-o-verter speeds data 15 to 30 times faster than conventional equipment (up to 3000 words per minute) on a voice line. ■ Dial-o-verter transmits and receives data on punched cards, punched paper tape or magnetic tape. Interchangeably. ■ Dial-o-verter magnetic tape terminals can send and receive at the rate of 5000 CPS (50,000 words per minute) and higher over broadband or microwave transmission facilities. ■ Dial-o-verter detects and corrects errors. ■ Dial-o-verter cuts communications costs to the bone. You pay only for the telephone time you use, as for any phone call, at regular local or long distance rates. ■ Dial-o-verter increases the efficiency of private lines, too. The system offers greater speed and error-free transmission. ■ Dial-o-verter can be operated by regular office personnel. No specialists required. ■ Dial-o-verter permits two computers at different locations to "talk to" each other, without involvement of the computers in the transmission operation. Permits a computer at one central location to serve many remote locations. Because Dial-o-verter can send and receive magnetic tape, paper tape or punched cards interchangeably, it is possible to link computers that operate in different media and in different codes. ■ Installation is simple. Dial-o-verters are standard equipment and are easily installed. However, modifications can be made to Dial-o-verter terminals to fit special requirements. ■ Dial-o-verter terminals can work with the electronic data processing equipment already installed. ■ Dial-o-verter is ideally suited for accounting, payroll, sales, billing, production, inventory, and engineering data. ■ Dial-o-verter is a creative communications system which, with the assistance of Digitronics business engineers, can make substantial contributions to your company's operations.

Dial-o-verter has Proven its Reliability

The Dial-o-verter system made the first commercial high speed data transmission over ordinary phone lines. It achieved the first 1500 wpm data transmission over transatlantic cable and was the first to successfully transmit at 1000 wpm N.Y. to Paris via Telstar satellite.

Since the first installation in March, 1961, more than 100 Dial-o-verter installations have been made in over 40 cities in the U.S., Canada and Great Britain. Corporations like Socony Mobil Oil Co., Martin Co., Mohasco Industries, Canadian Pacific Railways Co., Kelloggs, and Lever Brothers as well as government agencies including Social Security Administration, Veterans Administration and General Services Administration have multi-terminal installations. The New York Times is using Dial-o-verter too, to facilitate almost instant, low cost, high speed transmission of news material from N.Y. to Los Angeles.



BASIC FEATURES OF DIAL-O-VERTER TERMINALS

The terminals of the Dial-o-verter system provide data reading, data recording and electronic coupling equipment to enable the transmission of data on paper tape, magnetic tape or punched cards. All units are fully compatible with each other since they have essentially the same coupler,* which converts 5, 6, or 7 bit *parallel* information from cards, magnetic or paper tape to the *serial* configuration required by the Data-Phone subset or other Modem unit linked to the telephone line. At the receiving point, the coupler converts the serial information from the Data-Phone to the parallel configuration required for cards, magnetic or paper tape.

The Coupler also provides extensive line and data checking features and controls including automatic retransmission and the synchronization circuitry. In the course of transmission, parity for each character, synchronization for each character and parity for a complete block of the message are checked. The occurrence of an error in either transmission or reception causes the operation of a printing counter, which serves to identify the error block. The same counter indicates the total number of blocks in the message.

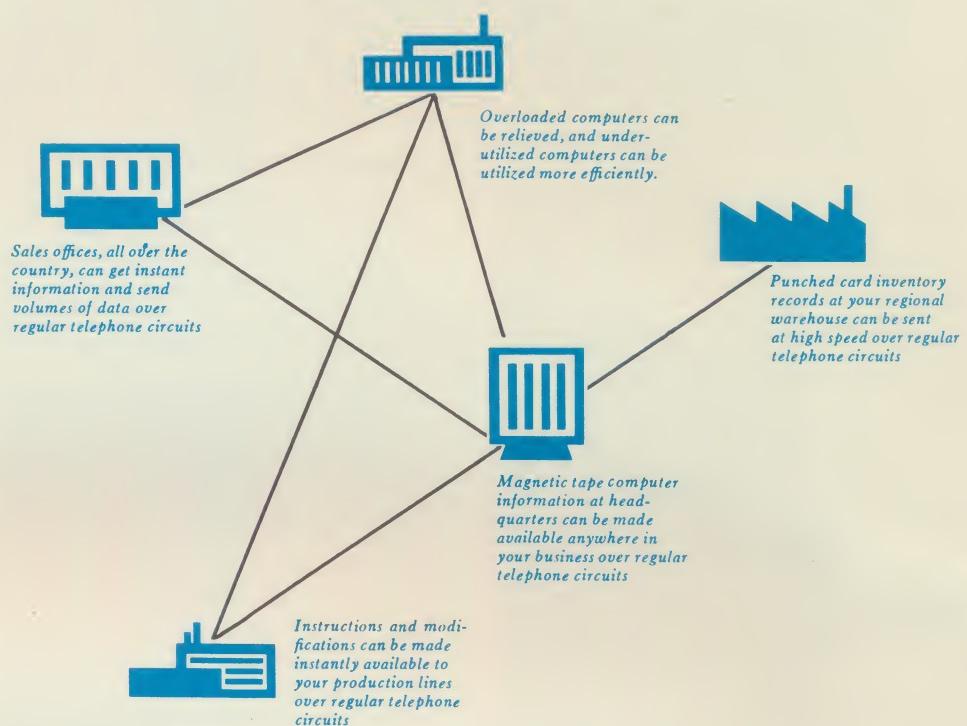
The Coupler enables unattended operation of Dial-o-verter terminals because it will respond to control signals transmitted over the line. It also can provide for parallel data configurations for use with wider bandwidth channels.

Operating Speeds

The Dial-o-verter Coupler operates in normal phone channels over the dial exchange network with the Data-Phone subset Model 202-A or 202-B at a maximum speed of 150 characters per second. When Data-Phone subsets Model 201-A or B are used, the maximum transmission speed is 250 cps or, over leased line, 300 cps. When higher bit rates are permitted by transmission facilities, the Dial-o-verter terminals will require only a minor adjustment to take advantage of the higher speeds.

Telpak service, in conjunction with the Data-Phone, meets the new broadband

Here's How Dial-o-verter Can Speed Up Your Data Communications



requirements for high speed communications. Channels are offered in four sizes, equivalent to 12, 24, 60 or 240 voice-grade circuits. With it, you have complete transmission control. You can add to, change or rearrange as your needs change; broadband purposes during one period, or a combination of narrower channels at another period. This flexibility can be enjoyed even at different times of the day.

*Except the D507S, D507R paper tape terminals which are capable of simplex operation only.

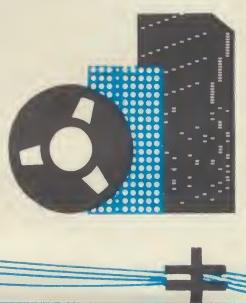
Checking and Error Handling

One of the most important features of the Dial-o-verter system is the extensive error checking of each transmission, and wherever possible, checking of data read from the input medium. Even if the input data contain no inherent checking features, a transmission check is made.

If the input data is an 8-level code and includes a parity bit, it is transmitted with the data. If it is a 5-level code, a parity bit is generated for each character transmitted. In addition to parity for each character, the Coupler automatically generates an even parity bit for each channel.

Flagging Errors and Line Checking

If any character received does not indicate the correct parity, a special "error-flag" code is inserted in its place and a special "ignore block" code is inserted at the end of the block in which the error occurred. If the input data contains a parity error, the error-flag code will be transmitted in its place. Longitudinal parity (an even number of bits in each channel) is checked at the end of each transmission block. If longitudinal parity for a block does not check, the special "ignore block" code is inserted at the end of the block, while the presence of a synch bit is checked for each received character. If interference has caused a loss of synchronization, the special resynchronizing character will restore synch to the remainder of the message.



DIAL-O-VERTER PAPER TAPE TERMINALS



MODEL
D505

The D505

The Dial-o-verter D505 Paper Tape Terminal can transmit or receive any one of the standard 5, 6, 7 or 8-level tapes. It incorporates complete error checking, line checking and automatic retransmission features and can either transmit to or receive from any Dial-o-verter unit — paper tape, magnetic tape or punched card terminal.

On the regular dial network the D505 can transmit at a speed of 150 or 200 char/sec with Data-Phone subsets 202A or 202B; and 250 or 300 char/sec if model 201A or 201B is used on phone lines. The D505 receiving speed is limited, however, to the speed of its standard output punch which is 100 char/sec. (An optional punch is available capable of operating at 150 char/sec.)

Paper Tape Error Handling Routines

The Dial-o-verter Paper Tape Terminal provides a number of off-line features for handling punched paper tape containing original errors or reception errors.

Selective Copying

A block of data containing an error can be selectively copied for special handling. By observing the counter and by using suitable manual controls, the tape can be run until a particular block is reached, which can then be punched into an output tape.

Visual Identification

When punched tape is converted to hard copy the "ignore-block" code is printed out to identify an error.

Copy Edit

A recreated perfect image of originally transmitted tape can be produced by running the *received* tape off-line, backwards, through the reader. All blocks will be punched out except those flagged by the ignore block code.

The D506

The D506 Paper Tape Terminal is designed for any multi-tape-level system. It has all of the features of the D505 and, in addition, by operator selection, can be switched from 5 to 6 to 7 to 8-level tape and can accommodate changes in control codes. This flexibility is made possible by a plugboard programmer that accommodates pre-plugged interchangeable inserts.

Indicator Lights

Located on the control panel recognize the number of the plugboard inserted.



MODEL D506

This is to insure compatibility with the terminal to which it is linked.

Paper Tape Punch

A paper tape punch capable of handling any of four code levels (5, 6, 7 or 8) is provided as standard equipment with each D506 terminal.

The D507S and D507R

The Model D507S and D507R Paper Tape Terminals, while offering the same high speed transmission and reliability of telephone line transmission as the other Dial-o-verter paper tape terminals, are specifically designed for applications which do not require error-checking, flagging and retransmission (i.e. message traffic). The operation of these terminals, therefore, is simpler and cost is sharply reduced. The D507 terminals have the same circuitry for synchronization, serializing and line checking as is incorporated in the D505 and D506 terminals. They can be used on private or dial network telephone lines in connection with the Data Phone subsets Models 202A or B or equivalent.



MODEL D507S

MODEL D507R

These terminals transmit or receive at 100 characters/second, (an "S" terminal only *transmits*; an "R" terminal *receives* only); serialize or parallelize 5, 6, 7, or 8-level tape; send reference characters for initial hook-up; recognize an "End of Transmission" code of up to three characters which stops reader, lights lamp and causes a "disconnect" (optional).

DIAL-O-VERTER MAGNETIC TAPE TERMINALS

The D520 Magnetic Tape Terminal

The Dial-o-verter magnetic tape terminal transmits and receives six-bit plus parity data at a maximum rate of 15,000 characters per second. It is fully compatible with associated computers and with Dial-o-verter Paper Tape* and Punched Card Terminals; the D520 includes all of the Dial-o-verter comprehensive checking and retransmission features as well as a memory buffer and a read-after-write check.

The standard components of the D520 are a magnetic tape handler including read-after-write circuits, a 1024 character core memory, the Dial-o-verter Coupler, a printing counter and a control panel.

The magnetic tape handler operates at 75 inches per second. The tape is $\frac{1}{2}$ inches wide for recording 6 data channels plus parity at a density of 200 ppi. Other head and tape width options are available.

Speed of Operation

The maximum speed of the D520 is 15,000 characters per second. The D520A, using high density tape can operate over broadband facilities at speeds of 42,500 characters per second. On the regular dial network using the Data-Phone 200 subset its speed is 150 or 200 characters/second. With the Data-Phone 201A or B the speed is 250 or 300 characters per second (the latter speed using private lines).

Checking Magnetic Tape Transmission

The D520 Magnetic Tape Terminal uses its buffer memory to simplify and automate checking including:

Input Tape Checking

The input data from the magnetic tape is checked for character and longitudinal parity. If an error is detected in the block the terminal will attempt four reads and will then halt. A signal light indicates an input error. The operator can note the block number and select a control to either force transmission of the block or pass over it. If the block is forced, the error and the block are flagged.

Retransmission

Data received by a Magnetic Tape Terminal is checked and if an error is noted the contents of the memory is not written

on the output magnetic tape. Instead, a retransmission occurs. The likelihood of more than one retransmission is remote since the only characters replaced are those which had been in error. Four successive requests for retransmission cause a disconnect.

Output Tape Check

Data written on tape is read and checked. If an error is detected the data is rewritten from memory. If four attempts to write are unsuccessful the unit will halt and disconnect. The operator can then force the block and have special "Flag" error characters inserted on the tape.

Operation and Controls

Operation of the D520 terminal is initiated after the phone call has been placed. The operator at one station selects the mode and, assured that the other station is ready, presses the "CALLING STATION START" switch. Transmission continues automatically until either an end-of-transmission signal or the absence of data for 30 seconds. The line then automatically "disconnects".

The D620 and D521 Magnetic Tape Terminals

For magnetic tape to magnetic tape operations, the D620 and D521 terminals offer the first use of Telpak A at 95% plus effective utilization. They will effectively transmit at 95% or better of the 5,100 character per second rated speed of a Telpak A circuit, *without* tieing up a computer at either end. This results in more efficient use of the lines, as well as more efficient use of computers. In addition, work loads can be distributed from one computer to the other, as from a main to a satellite computer. The D521 terminal also is compatible with standard Dial-o-verter terminals.

*except the D507S and D507R Paper Tape Terminals



MODEL D520

DIAL-O-VERTER PUNCHED CARD TERMINALS

The D510 Bi-directional Punched Card Terminal

The D510 is designed to operate with a standard IBM 514 reproducing punch to receive or transmit 80-column cards. It consists of the Dial-o-verter Coupler, a core memory buffer, a control panel and the cable connection to the IBM 514 reproducing punch. A plugboard and associated circuitry is available for editing. This card terminal can receive or transmit data in standard binary codes of 6 bits including any 5-bit precedence code (i.e. Teletype code). The core memory card buffer always contains data in the standard IBM 6-bit binary-coded-decimal configuration, except when an odd parity redundancy check bit is used instead of even parity. So that all 64 combinations of the 6-bit code may be used, including the all "zeros" combination which represents a blank column on a card.

Operating Speeds

The D510, when used as transmitting equipment, will operate at varying card rates, depending on the receiver; i.e.—transmitting to another card terminal, speed is slightly less than the standard

100 cards per minute; to a paper tape terminal, 75 cards/min.; to a magnetic tape terminal, 100 cards/min.

Checking Punched Card Transmission

The principle of offset stacking is used in general for error control with the optional facility for punching on "error-code" character at the receiver if an error is detected.

The D515 Serial Card Terminal

The Serial Card Terminal provides a system which may be more economical than the D510, where *only transmission* of punched cards is required.* The cards are read narrow end first, so that each character is read sequentially and translated into either Teletype or any desired 7-bit parity code. These characters are stored in a 1024 character core memory and transmitted over the telephone line via the Dial-o-verter Coupler.

The D515 is fully compatible with the D505 and D506 Paper Tape Terminals, the D510 Bi-directional Card Terminal and the D520 Magnetic Tape Terminal. And, since the data is stored in a core memory, retransmission features are in-

cluded. Optionally, the design of the Serial Card Terminal can permit the machine to be used as an off-line punched card-to-paper tape converter.

The D515 Serial Card Terminal consists of a serial card reader; a Data Converter which incorporates a 1024 character memory; translation and limited editing facilities; and a Dial-o-verter Coupler. It will operate at up to 200 cards/minute.

Core Memory Operation

The core memory can contain 12 full cards (80 characters each card) worth of data. A full memory load is transmitted to the remote receiver. If a request for retransmission is made, all of this data is reread from the memory. Otherwise, new cards are read and stored in the memory. To obtain an even more efficient rate of transmission, data transmission begins before the memory is completely loaded. In this way, the time for reading the cards is shared with the time for transmission. By using field control switches, more than 12 cards may be transmitted per memory load.

*The D515 capable of receiving data on a paper tape punch is an available option.



MODEL D515



MODEL D510

DIAL-O-VERTER SYSTEMS SUMMARY

MAXIMUM SPEED (CHAR/SEC.) WHEN TRANSMITTING TO A:									FEATURES
MEDIA	MODEL	PAPER TAPE TERMINAL	PUNCHED CARD TERMINAL	MAGNETIC TAPE TERMINAL WITH VOICE DATAPHONE					Unless otherwise indicated, all units feature - a) Transverse and longitudinal parity check. b) pre-transmission line quality test. c) error flagging. d) error correction by retransmission.
				DIAL-UP 202A	201A	PRIVATE LINE 202B	201B	TELPAK A 301	
Paper Tape	D505	100	133	150	250	200	300	1000	Transmits and receives any one of the standard 5, 6, 7 or 8 level codes.
	D506	100	133	150	250	200	300	1000	Same as D505 - Plugboard enables handling of <u>all</u> 5, 6, 7 or 8-level codes including changes in control codes.
	D507S	100	--	--	--	--	--	--	Pre-transmission line check - no other checks. (Optional acknowledge of correct receipt of data.) Transmits only to D507R. Does not receive.
	D507R	--	--	--	--	--	--	--	Same as D507S - Receives from a D507S only. Does not transmit. (Optional acknowledge of correct receipt of data.)
Punched Cards	D510	100	133	133	133	133	133	133	User to supply IBM 514 reproducing punch - Reads, punches at 100 cards/min. - off-set stacking in case of card read or punch error - allows for variable code translation and extensive editing via plugboard. Available without editing features as the D510B.
	D515	100	133	150	250	200	266	266	Transmits 80 column cards - Reads at 200 cards/min. Can receive on paper tape as the D515R - Does not receive cards.
Magnetic Tape	D520	100	133	150	250	200	300	5100	IBM 729* compatible tape (200 ppi). Read-after-write check - Variations of the D520 allow for handling of high density tape (556 ppi); mixed BCD and pure binary coding; variable code translation via plugboard.
	D521	100	133	150	250	200	300	5100	IBM 729* compatible tape (200 and 556 ppi). Read-after-write check - Compatible with all other DOV terminals. Handles both BCD and pure binary coding; variable code translation via plugboard. 95% effective utilization of Telpak A line.
	D620	Transmits only to another D620 (Optionally to other D.O.V. terminals)		150	250	200	300	5100	Transmits at 62,500 char/sec using Telpak B, C, or D. IBM 729* compatible at either 200 or 556 ppi. Read-after-write check. Double buffering technique affords 99.7% line utilization. As D620A can handle mixed BCD and pure binary coding.

NOTES: 1) With the exception of the D507R, S - All equipment can both send and receive - Transmission in all cases is non-simultaneous.

2) To change characters/second to words/minute, add a zero.

*Compatibility with computers of other manufacturers available on request.

AUXILIARY PAPER TAPE EQUIPMENT

D755 High Speed Tape Distributor

In operation, paper tape is read into the D755 Distributor which can drive up to 12 output punches. As the tape is read, the first data characters are examined by the distributor and, based on predetermined plugboard wiring, these characters select any one or more of the 12 output punches. Once selected the proper output punch is activated to create the entire identified record block.

The paper tape processed by the D755 may originate from Teletype receivers or a Dial-o-verter paper tape terminal. In the latter case, the D755 will also perform a copy edit operation. The D755 can be operated "on-line" by direct connection to a Dial-o-verter D505 or D506 paper tape terminal.

D472 — Dial-o-verter High Speed Printer System

The standard D472 Dial-o-verter High Speed Printer System operates to produce hard copy in alpha/numeric form from digital input received directly from an operating paper tape punch of a Dial-o-verter Paper Tape Terminal. Output is

on standard fan-fold continuous form sets (up to 20" wide), comprising one original and up to six carbon copies. It functions with paper tape data in any one of the common 5, 6, 7 or 8-channel (Flexowriter) codes, with or without parity. The standard Printer System provides a printed line width of 64 columns. However, line width may be specified in multiples of four, up to 120 columns maximum.

The *standard* Printer System (64 columns) is capable of printing at an effective rate of 150 lines per minute when using a full complement of 64 alphanumeric characters on the printing drum. In applications limited to printing out 10 numeric characters, the effective printing rate is increased by a factor of 4. The effective system rate may be increased through the use of a special high speed reader.

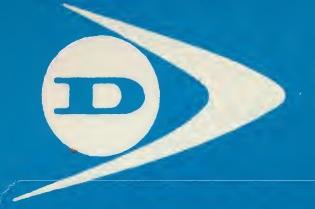
A variety of standard printing drums, engraved with 64, 48, 16 or 10 characters, are available. Drums may be quickly interchanged by the operator (about one minute). Special font requirements can be handled on an optional basis. The output format is 10 characters per inch horizontally and 6 lines per inch vertically.



MODEL D472



MODEL D755



DIGITRONICS CORPORATION, ALBERTSON, NEW YORK, TEL: 516 HT 4-1000

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Washington, D.C.

NEW, ECONOMICAL, HIGH SPEED



DIGITRONICS DIAL-O-VERTER TERMINALS

D400 and D401 ON-LINE PRINTER TERMINALS

Designed for economical, high speed, card-to-printer, paper tape-to-printer, magnetic tape-to-printer or computer-to-printer operation. These full alpha-numeric printer terminals employ a 120 column print head (optionally to 132 columns) and are used with voice-grade dial-up or leased communication channels via 201 Series Data-Phone subsets.* No software is required and operators can be clerical level help. The D401 has a double-bucket buffer which achieves simultaneous printing and data transmission.

Data Formatting

Basic printer formatting is done at the transmitting location. Line feed is initiated by a single end-of-line code or for additional line feeds, special line feed characters must be in blocks which exclude any other data. Printout of data occurs during acknowledge mode.

Error Control

Full error checking via acknowledge mode and automatic retransmission requests.

Compatibility

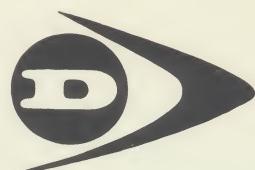
Compatible with Dial-o-verter Terminals D520, D522, D511 or D512, and optionally with D505 or D506.

Print Rate

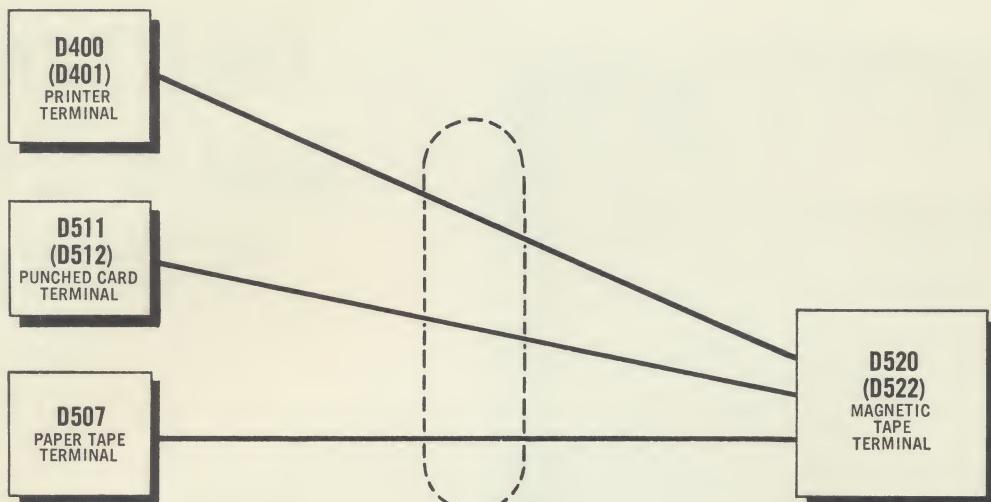
Printing rate is governed by average number of characters per line and telephone facility used. The rated speed of the printer is 300 lines per minute. 64 printable characters on a drum-type print head.

*The D400 is designed for 201A subset compatibility and the D401 for 201B compatibility.

D I G I T R O N I C S C O R P O R A T I O N
A L B E R T S O N , L . I . , N E W Y O R K



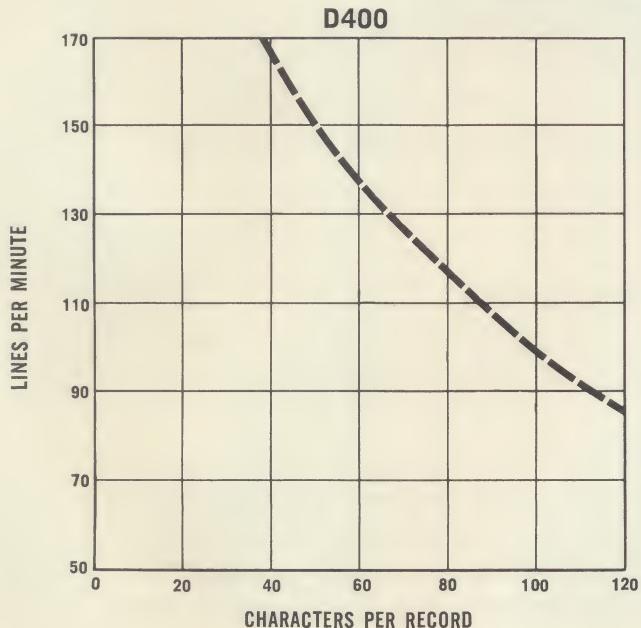
TYPICAL SYSTEM USING D400 (D401) PRINTER TERMINAL



OPTIONS

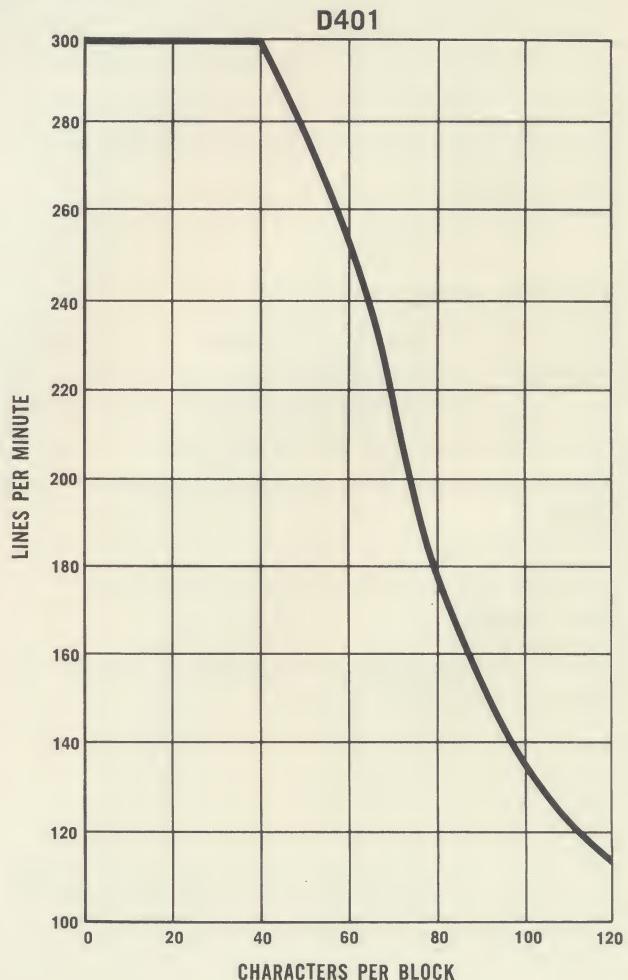
1. Automatic Vertical Formatting
2. 202A or 202B subset compatibility
3. Back-to-Back operation with Card Terminal
4. Tabbing
5. Increased column width, 128 or 132 columns

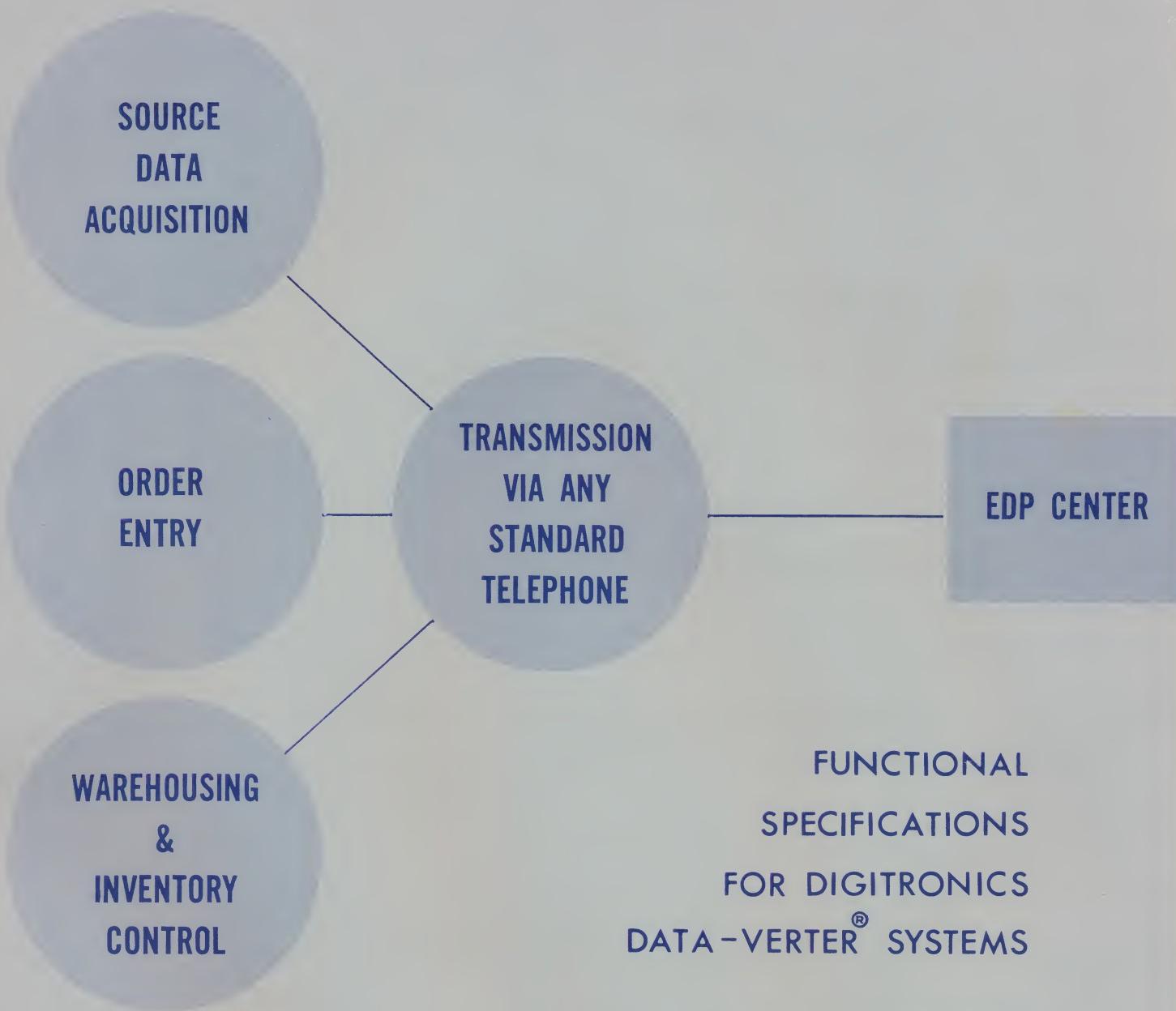
EFFECTIVE PRINTING RATES



— — — 201A SUBSET

— — — 201B SUBSET





*"Links the man in the field
to the remote computer"*

WILLIAM J. SMITH
TECHNICAL SALES & DEVELOPMENT

DIGITRONICS CORP.
ONE ALBERTSON AVENUE
ALBERTSON, L. I., NEW YORK

PHONE HT 4-1000

FUNCTIONAL SPECIFICATIONS FOR DIGITRONICS DATA-VERTER SYSTEMS

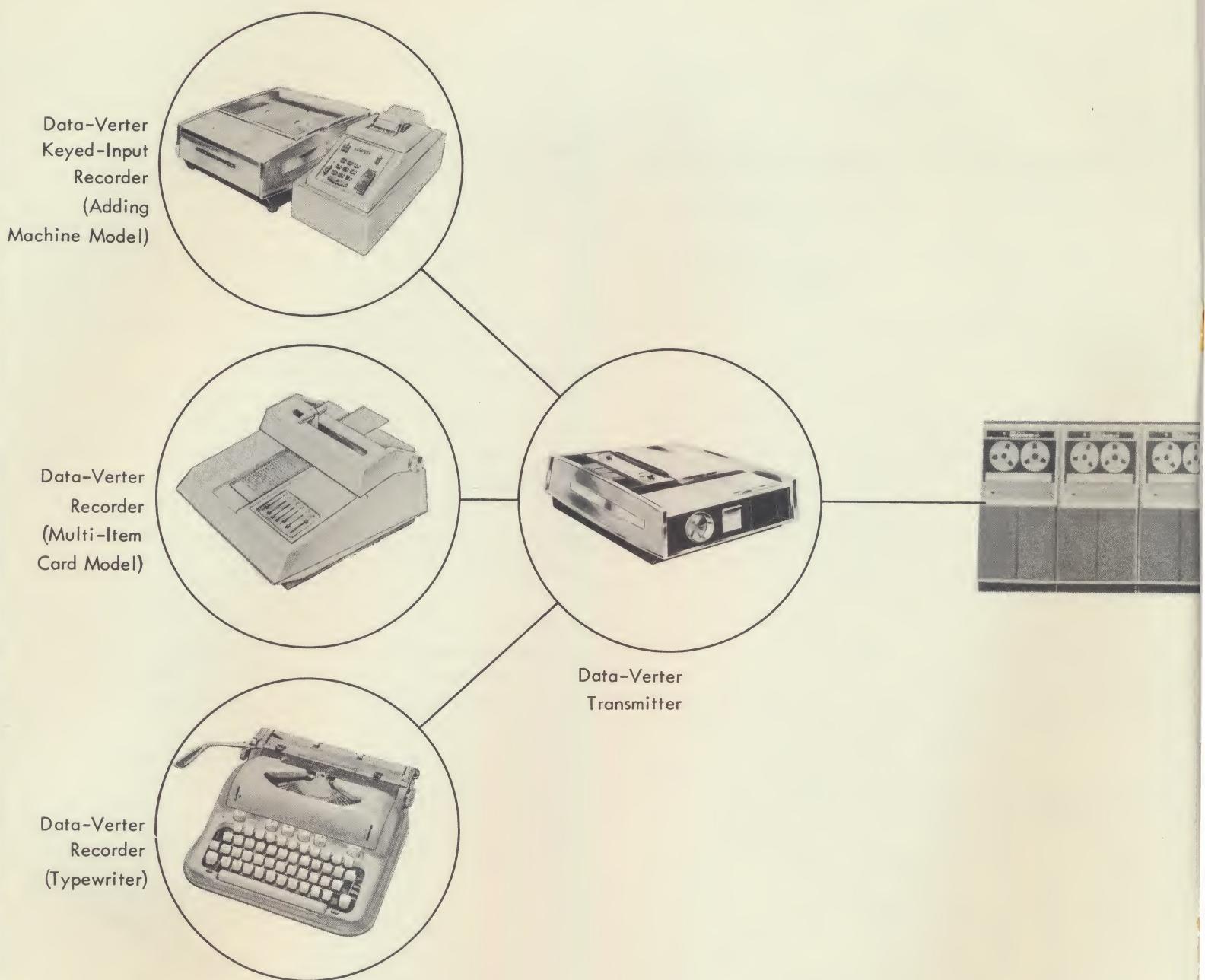
INTRODUCTION

The Digitronics Data-Verter System represents a family of devices designed to provide the user with a reliable and economical means of source data collection and transmission. Data-Verter lends itself to any application in which source data must be ultimately converted to machine language for computer usage. Through Data-Verter, it is now economically practical to record data at many remote locations and transmit on a daily basis to the EDP Center. Applications in the fields of inventory control, order entry, sales reporting, and transaction recording represent only a few of the possible uses of Data-Verter.

In brief, data is captured at the point of transaction and recorded directly onto a reusable magnetic tape cartridge. Upon completing a specific group of entries, the cartridge may be removed from the recorder and the data transmitted. Acoustical transmission techniques are employed which allow any standard telephone, including pay phones and private phones, to be used as a transmission device.

At the processing center the data is received in a form suitable for direct computer entry. Additional transcribing of the recorded information is not necessary. The remote transmitters may also be optionally equipped to operate in an unattended mode and transmission initiated under control of the EDP Center. As an alternative, the magnetic tape cartridge may be mailed in, and converted locally.

The data may be received on either paper tape, punched cards, hard copy, or magnetic tape, depending upon which Digitronics Dial-o-verter unit is selected as the central terminal.



SYSTEM DESCRIPTION

The Data-Verter System, in general, may be logically divided into three major components. These are the Recording Station, the Acoustical Transmitter, and the Central Receiving Terminal. The latter component may be integrally linked to an existing or future system for data transmission and distribution.

Initially, there will be two recording models available. The first is a keyed input recorder in which data is entered through various types of keyboards. The second utilizes a specially encoded item card to provide insertion of fixed data.

Recording Station

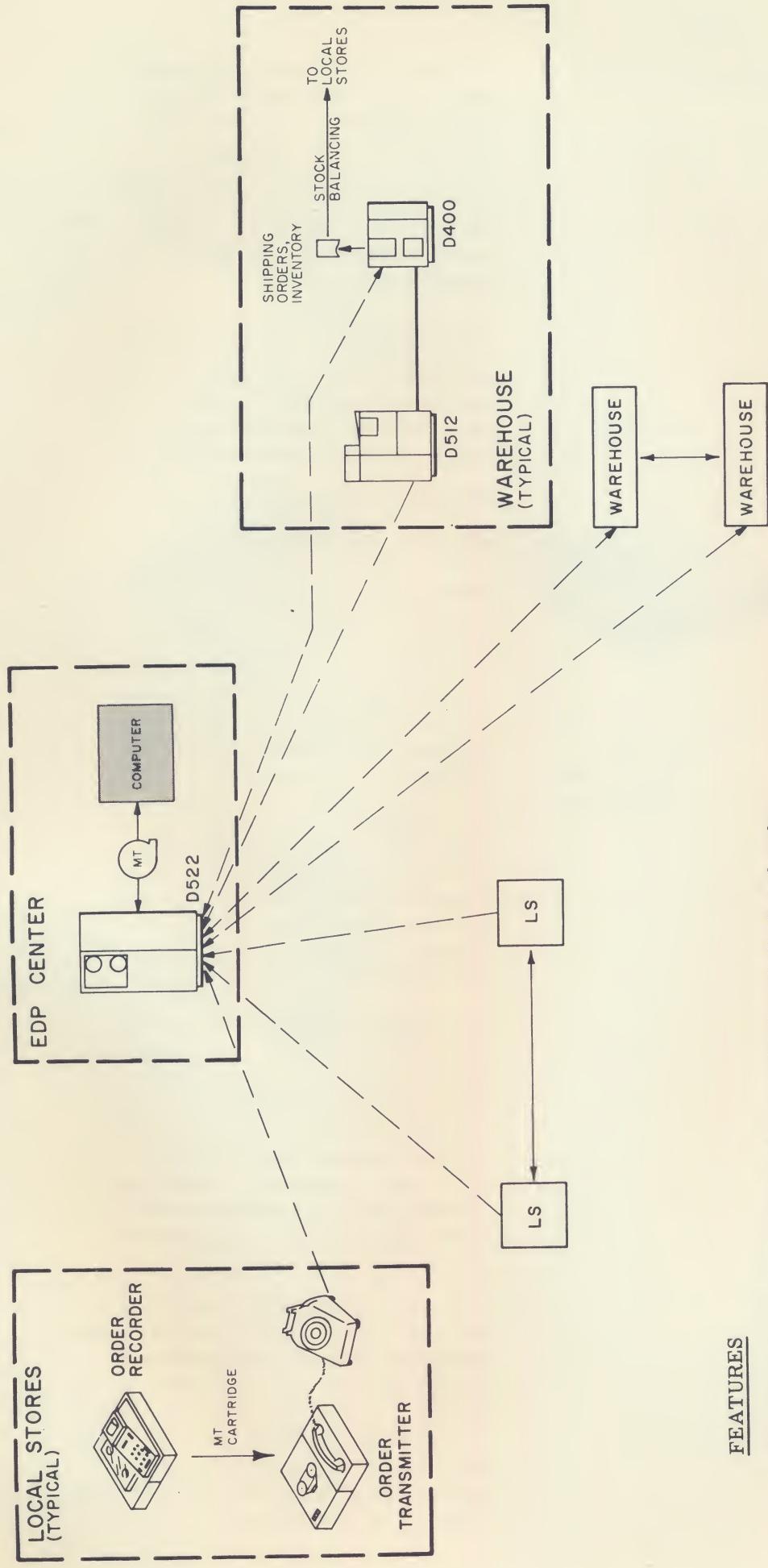
Keyed Input Recorder

The keyed input recorder is comprised of a basic recording mechanism and an input device. The input device may vary depending upon the application and may be either a ten-key keyboard, a full-bank (10 digit field) keyboard, a typewriter, or an adding machine.

The depression of a specific key will cause that character to be encoded and written onto the magnetic tape. Characters are written in serial format with one character being written at each key depression. Each character will include odd vertical parity.

The keyboard model is provided with ten numeric keys (0-9). Additional keys are included to allow insertion of a unique character indicating the end of a specific record to provide the ability to handle variable record lengths. A void key is used to cancel an erroneous entry. An additional key furnishes the ability to insert a special code for non-standard operations.

In the case of the adding machine model, the input device will function as a normal adding machine with the capability for adding, subtracting, sub-totaling, and totaling. A hard copy printout is provided as a by-product of the system. For models which employ only a ten-key input, an option is available to provide a visual neon display of all data entered.



FEATURES

- Allows daily recording and transmission of stock and order information to the EDP center.
- Eliminates additional transcribing of received orders to machine readable form at the EDP center.
- Orders may be transmitted at night with unattended control option.
- Picking lists and shipping orders printed at warehouse directly on line.
- Information concerning warehouse activities transmitted to EDP Center via punched cards.
- Reduces order cycle and warehouse inventory.
- Eliminates backroom inventory at store level.
- Reduces out of stock conditions.
- Provides better customer service.

SYSTEM DESCRIPTION
(continued)

Item Card Recorder

This model is capable of recording both fixed and variable information. Fixed information may be entered by means of a specially encoded item card. The item card has a capacity of approximately 36 line items. The face of the card contains a printed equivalent of the item to be recorded. The underside contains digitally coded information. Variable data is entered through manually operated slides with each slide having the capacity for eleven digits. By embossing the face of the card and the slides, it is possible to imprint the transaction as it is recorded.

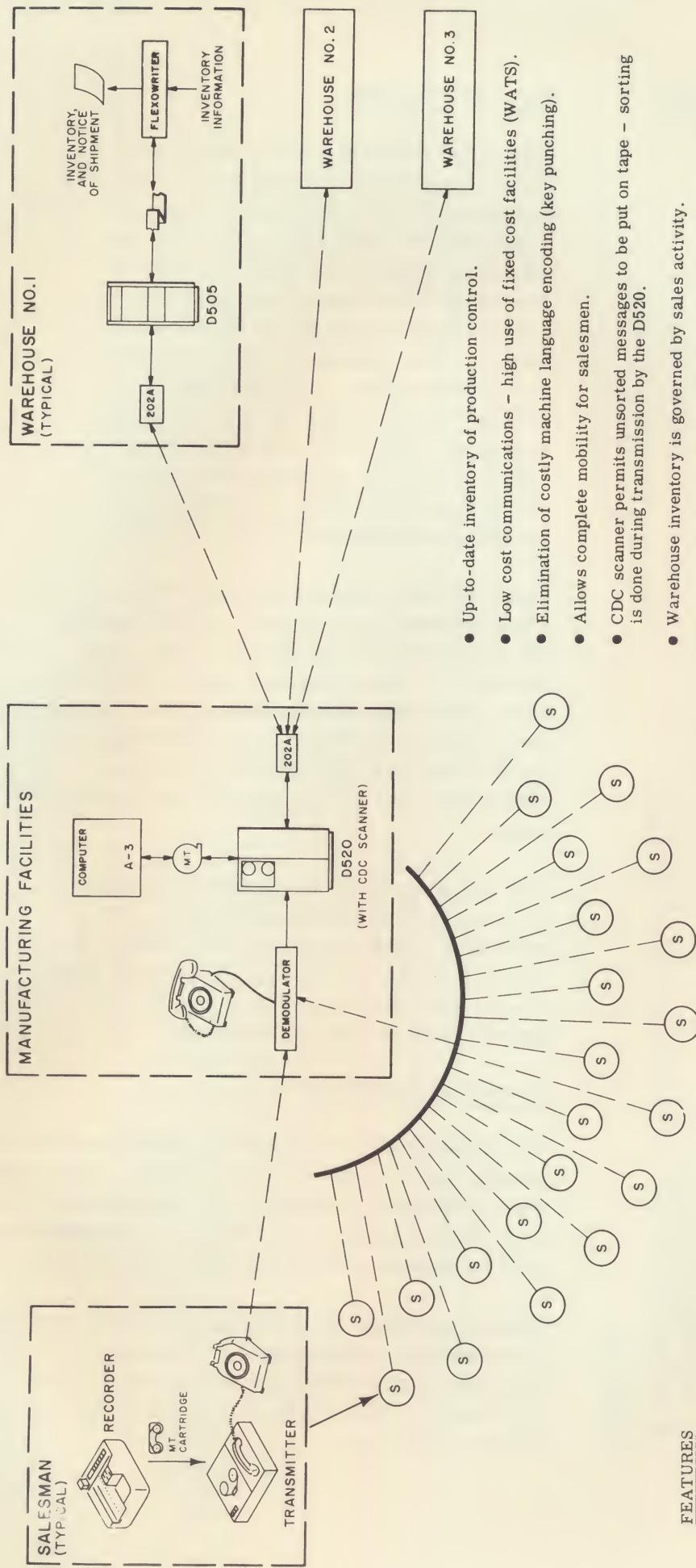
Once the item card is positioned, the variable information is entered, and an operate bar is travelled across the top of the card and slides. This causes the coded information to be simultaneously recorded on the magnetic tape, and printed if required. The image of the bit structure contained on the reverse side of the card will be recorded on magnetic tape.

The return stroke of the operate bar causes the tape to index to the next position for recording. Each character is recorded with vertical parity. As an option, an extra digit may be included to provide a longitudinal parity check of fixed data entered.

Acoustical Transmitter

The transmitter is a separate unit and divorced completely from the Data-Verter recorder. Any magnetic tape cartridge generated on any recorder may be used in a common transmitter. Effective transmission speed will be approximately 40 numeric characters per second.

Normal operation of transmission is in the attended mode. The cartridge to be transmitted is placed in the transmitter. Once the proper telephone connection is established, the telephone handset is placed into its receptacle and transmission is initiated.



ORDER PROCESSING COMMUNICATIONS SYSTEM

SYSTEM DESCRIPTION

(continued)

Transmission of additional cartridges is accomplished in much the same manner. When all cartridges have been transmitted, the operator will remove the handset and inform the operator at the central receiving point that his transmission has been completed. (The operator at the central receiver will hear the remote operator over an audio monitor.)

The transmitter may also be used in an unattended mode. In this case the telephone handset transceiver is inserted into the acoustic coupling receptacle and a control unit is placed over the telephone. This unit controls the operation of releasing and depressing the telephone switch hooks. When that station is called, the ringing signal is detected by the transmission unit, and the telephone is answered automatically. If the incoming call is the expected poll from the central processing facility, transmission will be automatically initiated. If the incoming call is the result of a wrong number, a timing circuit will cause the telephone to disconnect. The telephone will then return to a readiness condition to await the legitimate polling call.

Central Receiving Terminal

Information transmitted via the Data-Verter may be received at the processing facility on either a computer compatible magnetic tape (D522) punched cards (D512), punched paper tape (D507), or a high speed printer (D401), depending upon which Dial-o-verter Terminal is selected for the operational system.

All incoming characters are checked for vertical parity. Should an error occur, the character received with incorrect vertical parity will be discarded and replaced by a special error flagging character.

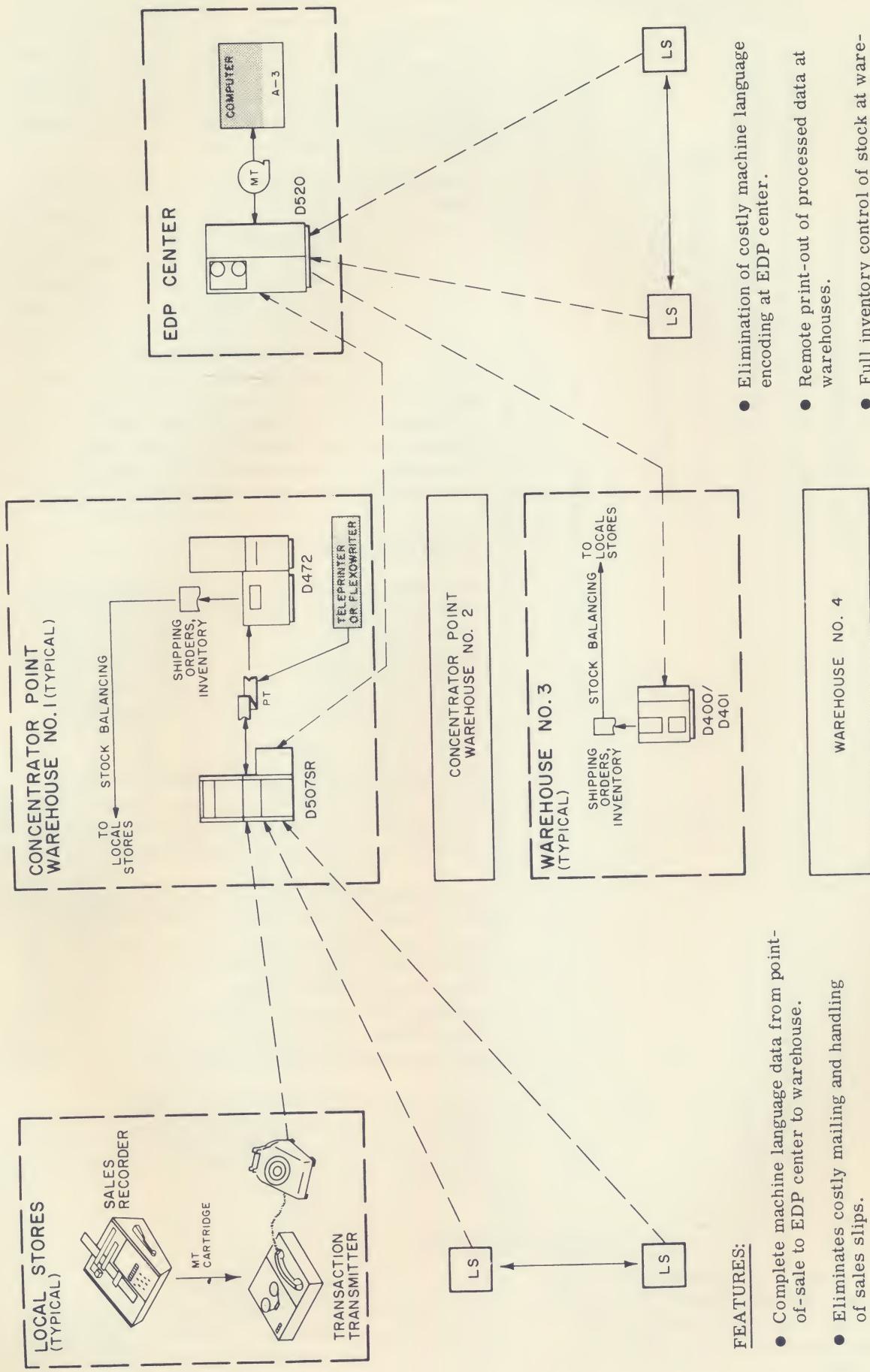
The standard Digitronics D522 Magnetic Tape Terminal may be used for Data-Verter reception in addition to normal transmission to other Dial-o-verter units. The D522 produces IBM compatible magnetic tape in densities of either 200 or 556 bpi. The D522 utilizes a magnetic core memory of 1020 characters for blocking of input data. Error flagging, as described above, and read-after-write checking of data written are included.

When transmitting to other Dial-o-verter terminals the D522 incorporates both vertical and horizontal parity checking and automatic retransmission of data received in error.

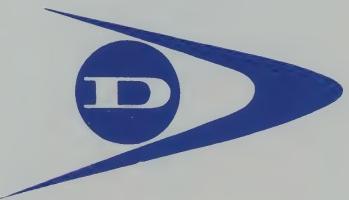
SYSTEM EXPANSION

The system concept is one of modularity. The system may be expanded by adding, as required, additional input stations and increasing the flexibility and speed of the transmission terminals as the need for more sophisticated equipment arises.

The central magnetic tape terminal may be used for transmission to on-line printers located at distribution warehouses. In addition, various other Dial-o-verter punch card or paper tape terminals may be integrated into the system to satisfy future requirements.



POINT - OF - TRANSACTION AND INVENTORY CONTROL SYSTEM



DIGITRONICS CORPORATION

ALBERTSON, L. I., NEW YORK

DV1064

PRINTED IN U.S.A.

October, 1964

pioneers in data processing technology...

DIGITRONICS
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DIGITRONICS
DIGITRONICS
DIGITRONICS CORPORATION

ALBERTSON, LONG ISLAND, NEW YORK.. 11507... (516) HT 4-1000

October 11, 1965

Dear Mr. Nelson:

Why are Lever Bros., U.S. Steel, American Airlines, Chrysler Corporation, General Foods, Socony Mobil Oil Co., Sylvania, NASA and many other prominent organizations using the Digitronics Dial-o-verter System for high-speed data communications systems?

Because the Dial-o-verter System provides greater operating efficiency, up-to-the-hour management control and increased profits--that's why!

Digitronics Dial-o-verter Systems, proven reliable through years of operations, in hundreds of installations all over the world, offer you economy, speed, accuracy, compatibility and flexibility for implementing a "total" data processing system, while satisfying a wide variety of applications, including accounting, payroll, sales, billing, production, inventory and engineering data.

The enclosed brochure contains a comprehensive description of Dial-o-verter "third generation" data communications systems... now in use and endorsed by America's leading organizations. It reflects many mature advancements in data communications terminal development. For example, when used with telephone subsets having reverse channel facilities, Dial-o-verter provides synchronization, error-checking and automatic retransmission for fast, accurate data transfer within any organizational units.

If you have two or more installations and transmit data from one location to another, you should investigate the Dial-o-verter System, today. Just mail the enclosed card. A Digitronics representative will be happy to discuss your application.

Cordially,

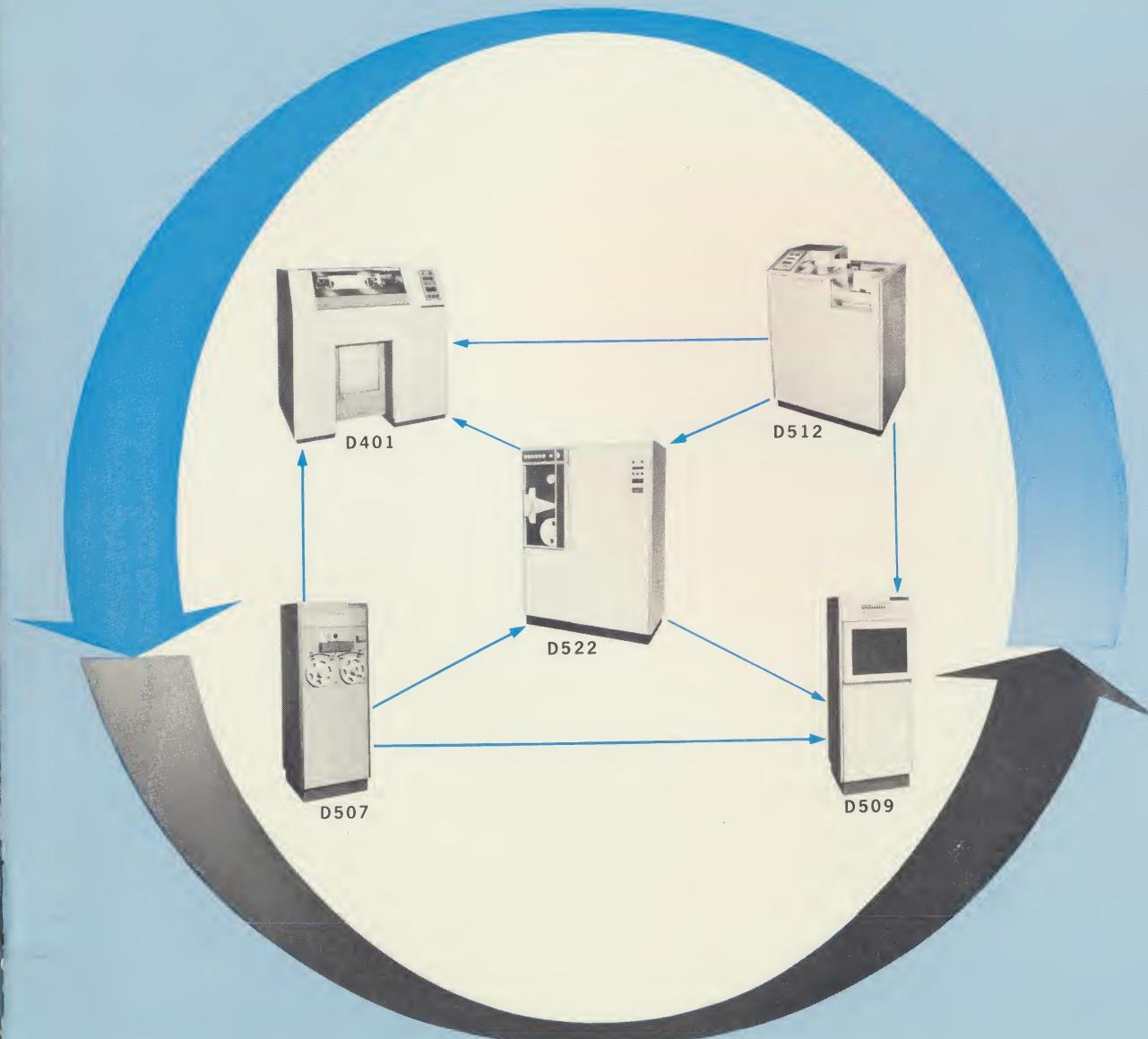
DIGITRONICS CORPORATION

Lester Krugman
Lester Krugman
Vice President, Marketing

LK:gs
Enc.

DIGITRONICS CORPORATION

NOW...MORE THAN EVER...FIRST IN INSTALLED, RELIABLE, ACCURATE, HIGH-SPEED DATA COMMUNICATIONS SYSTEMS



DIAL-O-VERTER® "THIRD GENERATION"

Data Communications Systems

Now in use by many leading corporations...
a complete line of terminals...
endorsed by users for greater operating efficiencies...
provides up-to-the-hour management information

DIGITRONICS... long the leader in computer-oriented Data Communication Systems

SEPTEMBER, 1960

Digitronics Develops First All-Solid-State Magnetic Tape/Paper Tape Converter. For Merrill, Lynch, Pierce, Fenner and Smith, world's largest brokerage house. Now translating 16,000 market transactions daily.

OCTOBER, 1960

Digitronics Produces First Commercial High-Speed Data Transmission System To Use Ordinary Telephone Lines. Now serving leading corporations and federal agencies in this country and throughout the world.

MARCH, 1961

Digitronics Installs First Operational Commercial High-Speed Data Transmission System Utilizing Automatic Error Detection-Correction. Efficient economical system links Lever Brothers warehouses throughout the country with their Computer Center in New York.

JANUARY, 1962

Digitronics Installs First High-Speed Data Distribution System for Social Security Administration. Dial-o-verter network links Baltimore Master Files with all Regional Control Centers.

MARCH, 1962

Digitronics Initiates First 1500-WPM Data Transmission Via Transatlantic Telephone Cable. In regular use for over two years between New York, London and Paris.

AUGUST, 1962

Digitronics System Provides First Data Transmission at 1000 WPM to Paris Via Telstar Satellite. Experimental transfer of news by The New York Times to Paris for its International Edition.

MARCH, 1963

Digitronics Provides First Practical Link For "On-Line" Direct Talk Between Computer and Remote User. System allows Socony Mobil engineers throughout the world to utilize central computer facility.

FEBRUARY, 1965

Digitronics Installs First Reverse Channel Equipment For Higher Effective Transmission Rates. System for General Foods includes automatic error detection and correction.

THE ROLE OF DIGITRONICS IN HIGH-SPEED DIGITAL-DATA-COMMUNICATIONS

The need for high-speed, accurate, low-cost data communications, to match the enormous data processing capabilities of modern computers, was recognized by Digitronics back in 1959...long before computer manufacturers and users were aware that computers would cause a communications crises.

The use of the mails, voice communications and conventional wire services for getting information to and from data processing centers has proved to be as effective as trying to catch a jet airplane with a horse and buggy...and an unprofitable way of obtaining the optimum advantages modern computers can provide.

Digitronics engineers, aware that only pace-keeping data communications systems would eliminate this developing bottleneck in the profitable use of computers, "scooped" the industry by designing the first computer communications terminals—Digitronics Dial-o-verters. Digitronics pioneered high-speed data communications during the early 1960's with dozens of America's largest corporations. Such companies as Lever Brothers, U.S. Steel and Shell Oil Company, found that Dial-o-verter helped to solve their computer communications problems. They like the solution, because they've continued adding to their Dial-o-verter installations over the years.

Between 1959 and now, three generations of design have evolved from the practical experience Digitronics gained in installations in several hundred separate locations all over the world, where Dial-o-verter developed the best performance record for handling the fastest, most error-free data and message traffic for computers. Today's Dial-o-verter incorporates data communications features unmatched by any other equipment.

Digitronics Dial-o-verter terminals now constitute the broadest, most mature product line in the industry, including advanced products for every application from the largest data communications network to the smallest point-to-point system. Originally starting with America's largest corporations, Dial-o-verters are now being used by medium and small size companies for the broadest spectrum of applications.

Now...more than ever...Digitronics leads all others in installed, high-speed, error-corrected data communications systems.

Dial-o-verter is a **real time** saver. Users of "third generation" computers are finding that there is no more efficient way than Dial-o-verter to communicate with their machines. Dial-o-verter with its wired-in programming, allows your computer to work at maximum efficiency. And, it does not matter whether you want to use punched cards, paper tape, or magnetic tape...or obtain a hard copy printout. Dial-o-verter offers all of these media.

Year after year, the economy, accuracy, speed, simplicity of operation and unmatched performance of Dial-o-verter equipment has enabled Digitronics to retain its leadership in high-speed, error-corrected data communications over the regular telephone network.

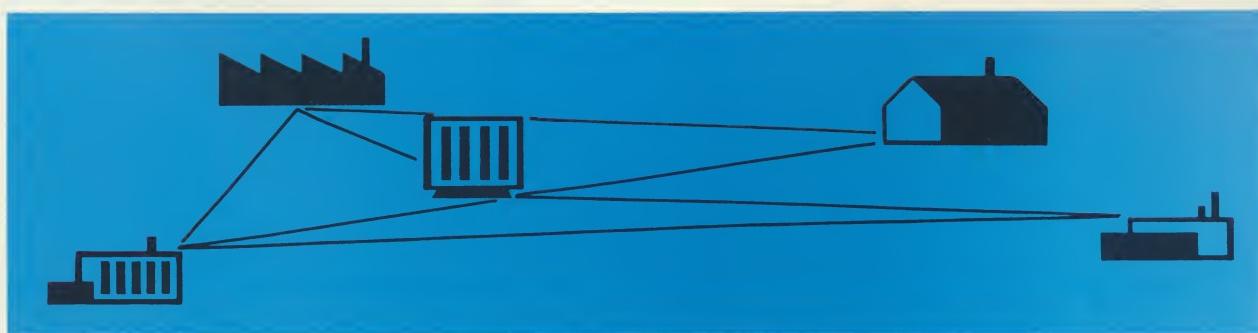
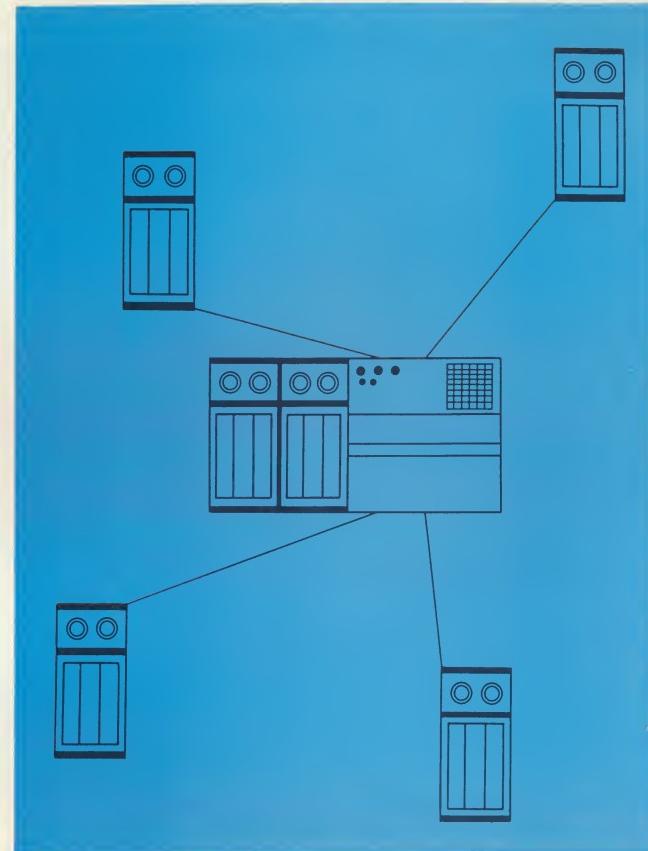
You can safely trust Digitronics to do your data communications job.

*If you have a computer...or if one is on order...
consider DIAL-O-VERTER...
the data communications line that
offers maximum flexibility for implementing
a "total" data processing system.*

The Dial-o-verter System...now in use and endorsed by many leading corporations... provides mature "third generation" advancements in performance for the economical and efficient improvement of modern business management information systems.

Dial-o-verter features conceived as a protest against data systems extravagance include: **ACCURACY**...Detection and correction of errors—accomplished by automatic retransmission...**HIGH-SPEED**...15 to 30 times faster than conventional equipment (up to 50,000 words per minute...and even faster over broadband facilities). **CONVERSION**...Input-to-output conversion, without computer intervention allows each user to select the media best suited to his system. **COMPATIBILITY**...terminals work with your present data preparation and processing equipment, with all telephone network facilities and with each other. **SIMPLICITY**...no customer programming required after installation. **ECONOMY**... communication costs cut by paying only for the telephone time used or utilizing an existing WATS line during off-hours for even greater savings.

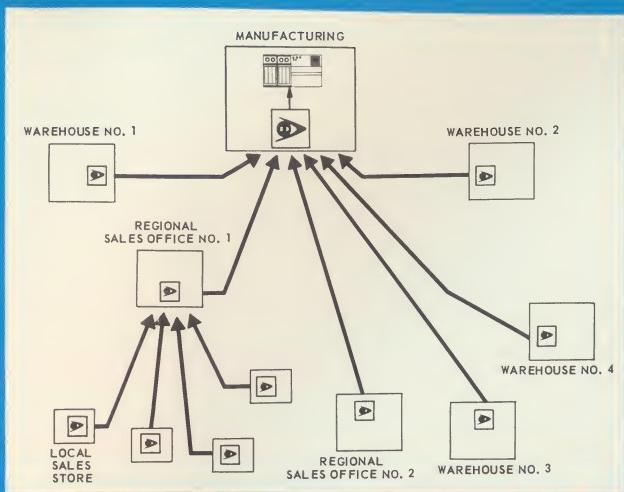
No other system offers such flexibility, such engineering excellence, with such reliable performance. Rigid performance tests are performed prior to delivery, on each of the basic terminals, as well as on customer-selected options. In addition, exhaustive systems tests are performed to assure the user that the terminals will **exceed** the application requirements for which they are designed.



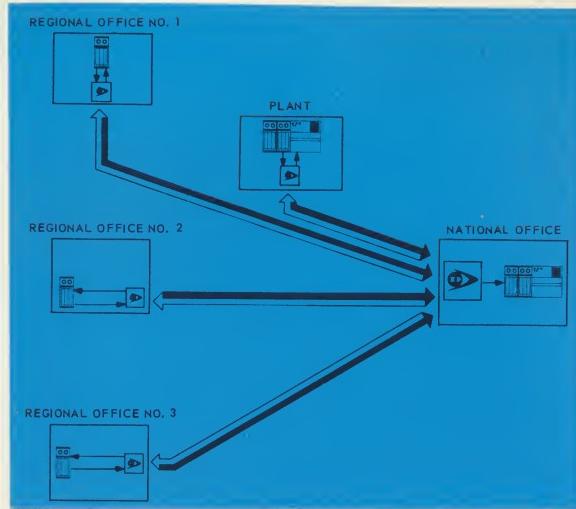
Digitronics equipment satisfies a wide variety of applications, including accounting, payroll, sales, billing, production, inventory and engineering data flow.

The information on the following pages can be worth thousands of dollars a month to your company... savings now enjoyed by many leading companies using DIAL-O-VERTER.....

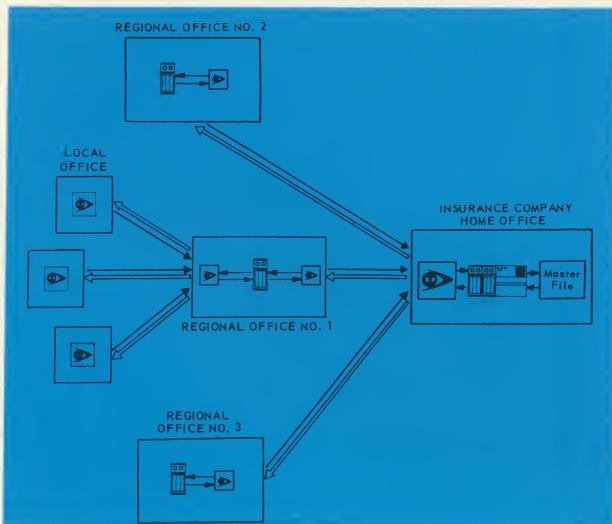
1 DATA COLLECTION:



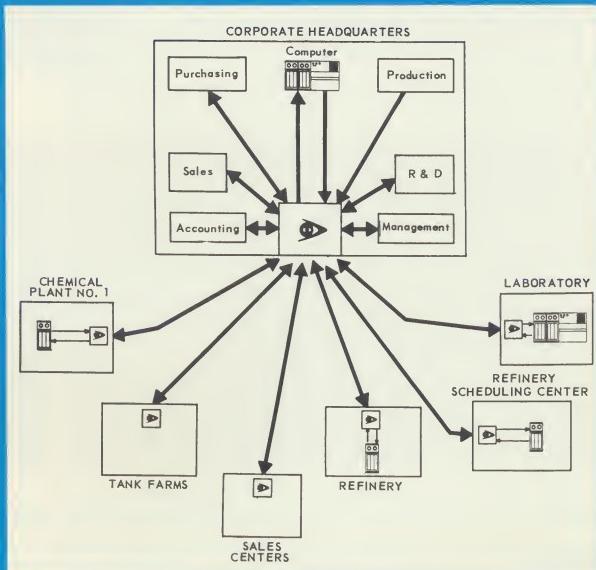
2 AUXILIARY PROCESSING AND LOAD SHARING:



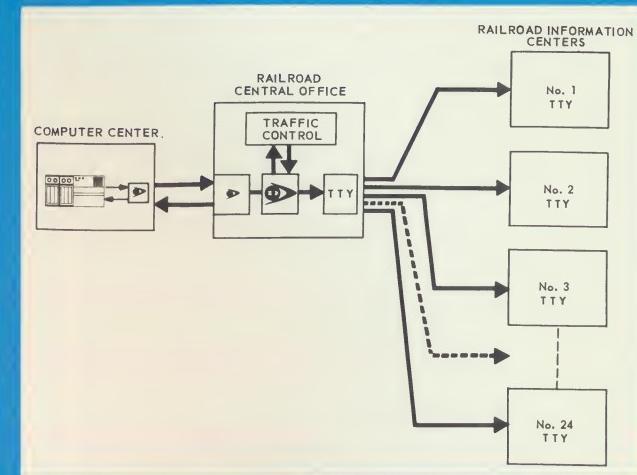
4 INQUIRY:



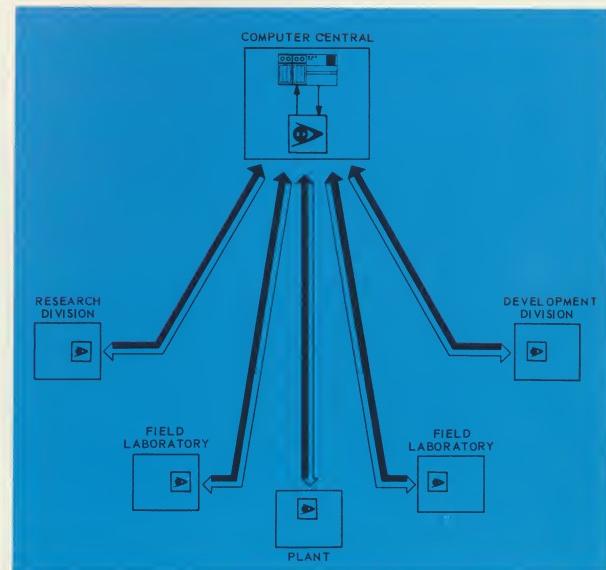
5 MESSAGE AND DATA SWITCHING:



3 DATA DISTRIBUTION:



6 REMOTE PROCESSING:



Here are the six fundamental data communication patterns used by profit-conscious leaders of industry

1

DATA COLLECTION: Data is where you find it. To use or process it, you must deliver it to the location of the high-speed electronic data-accumulation and data-processing equipment in the system.

Regardless of the form in which the data is found, or when it is found, and regardless of the rate at which it first appears, all data must arrive at the data-processing center in computer-compatible forms, and at computer-compatible rates. For best efficiency, this data transfer must be accomplished with minimum delay and maximum accuracy.

Digitronics Dial-o-verter equipment provides the complete answer to all such requirements. It can accept data on punched cards, punched tape or magnetic tape. It can collect data at a random or cyclic rate, transcribe it to the appropriate form, and store it until the appropriate moment for transmission. Then it transmits the accumulated data in one continuous stream, at speeds limited only by the ability of the interconnecting lines to carry them. Dial-o-verter is fully compatible with all types of private and commercial telephone lines and services, too, be they Dial, WATS, Telpak, or Leased . . . in fact, any information channel, including microwave and satellite links, can be

equipped to "talk digital" with a Dial-o-verter Terminal.

2

AUXILIARY PROCESSING AND LOAD SHARING: Every computer has a limit. Sometimes the limit is one of size, sometimes of program, sometimes even speed, but it rarely makes good sense to install a bigger, faster, more flexible computer than you will probably ever need . . . just to be safe. Normally, the sensible procedure is to install several machines of modest capacity and versatility, and get the most out of them through careful scheduling and judicious load-sharing, with the important bonuses of multiple location and multiple-unit "back-up" for added reliability.

Whenever there is more than one computer available to a data system, or when purchase of an additional computer is contemplated, a direct "reciprocal-trade agreement" should be investigated. Several computers can process incoming data simultaneously during a peak load period, to smooth out the "bumps" in the daily schedule. Alternatively, such computers can be assigned a separate part of the process, sharing the programs, rather than the loads.

Dial-o-verter is particularly well-suited to this kind of liaison. Needless to say, it offers considerably more than mere sub-

stitution; it pays for itself over and over, not just in the price of the more powerful computer you don't need, but in the more productive use of the system you now have, and in the increased speed and reliability of the combined operation.

3

DATA DISTRIBUTION: One set of data from any one location in the system may, after processing, be needed in one or more other locations . . . or parts of it, in several different forms and states of processing, may require distribution to a dozen different places.

Only when data reaches the point of application and has been translated into a useful form, does it have value . . . and time is often "of the essence".

Computation and tabulation take time, even in the fastest of computers. Conversion to new format takes time. Transmission to destination takes time, even when a line is instantly available on call. Checking and verifying accuracy takes time. Translation takes time.

Dial-o-verter systems cut even these electronic-process delays to the bone, and eliminate others outright. (For example, Dial-o-verter's "Reverse Channel" performance just about eliminates error-checking delay!) You get the fastest, most dependable distribution, regardless of "language barriers" or computer loading, with Dial-o-verter.

4

INQUIRY: The economics associated with a single, large, central data file are well established. High-speed random-access mass storage is superior to all other forms of information "banking", and most large central computers provide enough

of this storage for most of the needs of all remote offices. With standard Dial-o-verter terminal equipment, any remote office can gain access to the main file, and search, modify, re-enter . . . do anything that could be done from the main computer console . . . from thousands of miles away. You can cut the cost of remote data-processing installations, most times, by refusing to duplicate the memory you are already paying for at the central office . . . by having Dial-o-verter eliminate that duplication.

5

MESSAGE AND DATA SWITCHING: Just as a telephone switchboard makes it possible to service hundreds of telephones with a handful of outside lines, Dial-o-verter can automatically, economically, and completely-reliably insure you of optimum system utilization, at minimum cost and delay, by equipping your central processing installation with switching and routing control units that achieve the necessary traffic control, under manual or automatic programming. This capability adds little to the cost of your "network", but may effectively double or triple its capacity and profit potential.

6

REMOTE PROCESSING: When you **must** have a computer at a particular place, the cost is automatically justified; however, if it will sit idle a good part of the time, you ought to consider alternatives. If, for example, you have remote offices that could make excellent use of a computer for a small fraction of each day or week, if they had access to one, the obvious answer is to make one central computer available to all, through Dial-o-verter links. The cost is rapidly amortized.

*Considering a second computer?
DIAL-O-VERTER may do more
for you, at far less cost.*

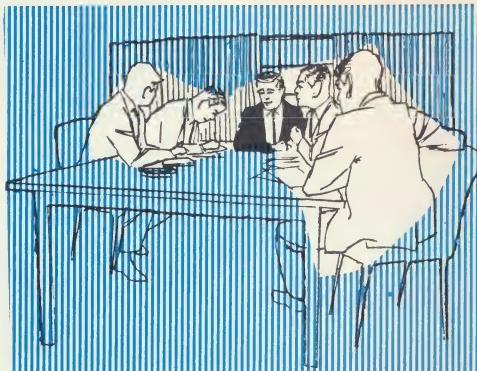
Recent surveys showed that the average **effective** utilization of computer time was less than 50% of what it **could** have been, with optimum data flow, to and from every data-use point! DIAL-O-VERTER terminals cost far less than a computer...and may fulfill your systems requirements more efficiently and economically. Let us explore this potential saving with you **now**...before you sign another lease.

*Considering a new computer?
Adding high-speed DIAL-O-VERTER
to your plans may pay for it!*

Computation time is measured in millionths of a second; waiting time is measured in minutes and hours. If you could group the "dead" spots and program some "live" assignments into that interval, you would gain a whole computer for that length of time. DIAL-O-VERTER can do this for your present computer, and the savings will help pay for the new one, even before it's installed. Include DIAL-O-VERTER in your new computer installation and gain computer time for additional, important data processing tasks. Simultaneously, you will need fewer peripheral devices...increase data throughput speeds and lower overhead costs.

WHY DIGITRONICS DIAL-O-VERTER?

Because **only** DIGITRONICS can offer you a **complete** selection of **standardized terminals** for implementing your **entire** data communications system. Only DIGITRONICS can offer you all of the advantages and services essential to an **optimum system**, plus full compatibility with practically every computer.



COMPLETE DEPENDABILITY

Digitronics has more years of first-hand experience in installing more reliable, accurate, high-speed digital data communications systems than any other company. As an endorsement, customer records show that original Digitronics equipment, the first high-speed data transmission terminals ever offered, are still in use in major U.S. company installations after more than four years of continuous operation. This unmatched performance record, combined with engineering and communication systems advancements—many created by our own specialists—is your assurance of complete dependability.

1959

1960

1961

1962

1963

1964

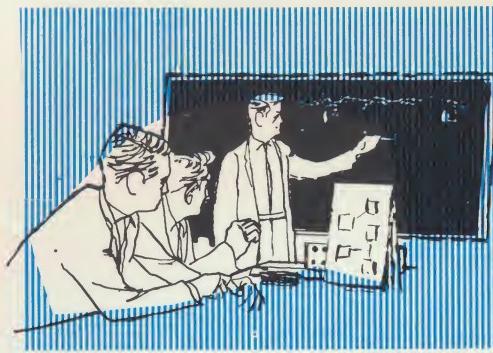
1965

PROVEN, STATE-OF-THE-ART DESIGNS

DIGITRONICS, as the leading specialist in digital data communications, has acquired the largest range and variety of experience by far, places at your disposal the most advanced, diversified, and complete line of standardized data communications equipment available anywhere. Every DIGITRONICS terminal is a **third-generation** design—with all of the performance superiority and added dependability inherent in twice-refined equipment. Available on short delivery cycles, these equipments not only enable you to specify and obtain a complete operational network with negligible delay, but, engineered for automatic, foolproof performance as they are, they are ready to go to work for you the moment they are installed—a turn of the key, and you are in full operation.

COMPETENT FIELD ENGINEERING SERVICE—

Our own DIGITRONICS Maintenance and Repair Service is immediately available for all DIAL-O-VERTER customers. Strategically located across the nation, these factory-trained technicians are supported, in depth, by a staff of home office field service specialists.

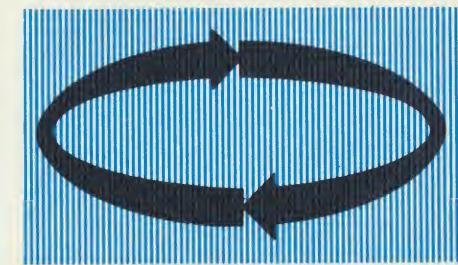


SYSTEMS/OPERATIONS ANALYSIS— TO HELP YOU OPTIMIZE YOUR SPECIFICATION

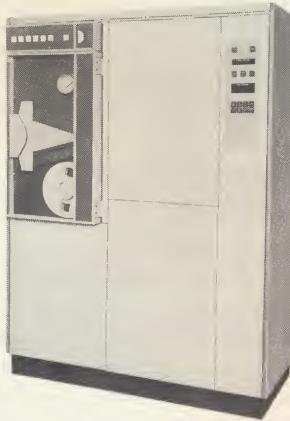
DIGITRONICS maintains a full-time staff of experts whose services are available to you in the planning stage with no cost or obligation. In designing your system, DIGITRONICS engineers draw on the most complete library of successful system configurations backed by proven performance. They know how to improve efficiency through data transmission. In addition, full technical support is always available to help you plan for sound, economical data processing system expansion.

EXCLUSIVE FEATURES

DIGITRONICS equipment incorporates many unique features which are exclusive with DIAL-O-VERTER. Your EDP specialists will tell you that such features as reverse-channel operation and multiple-accuracy checks, offer significant gains in speed and accuracy over competitive equipment.



**SELECT
THE OPTIMUM
DIAL-O-VERTER
TERMINAL EQUIPMENT
FOR YOUR APPLICATION
FROM THESE
SIX STANDARD DESIGNS
...AND
LITERALLY HUNDREDS OF
CUSTOMER OPTION
VARIATIONS!**

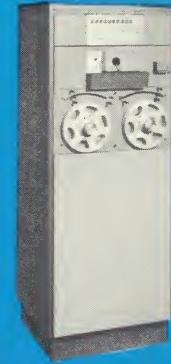


THE D-522 MAGNETIC TAPE TERMINAL*

- Fully Compatible With Associated Computers
- 1024-Character Core Memory Permits Efficient Match Between High-Speed Magnetic Tape and Slow-Speed Telephone Lines
- Paper Tape, Punched Card Reception, Reading, Translation, Other Standard Options, Including "Off-Line" Conversion
- Higher Effective Transfer Rates Through Reverse-Channel Operation
- Error Detection and Correction by Automatic Retransmission.

The D-522 is the cornerstone of a complete, high-speed data exchange and conditioning system, using computer-compatible magnetic tape, and communicating directly, via all commercial services . . . Dial or Leased Telephone Lines, Telpak, and WATS—with IBM, Univac, RCA, and other computers, at speeds up to 36,000 characters per second. Modular, solid-state construction permits expansion of its performance across the entire span of data-processing functions, including punched card and paper tape facilities; its ability to exchange, interpret, format and translate data is virtually unlimited. The D-522 is the best multi-purpose data terminal on the market today.

*Fully compatible with Digitronics DATA-VERTER® Data Acquisition Transmission System.



THE D-507 PAPER TAPE TERMINAL

- Transmits 5, 6, 7, or 8-Level Standard Tape, At Speeds Up To 285 Characters Per Second
- Uses Any Commercial Wire Line
- Compatible With Dial-o-verter Paper Tape, Magnetic Tape and Printer Terminals
- Reverse-Channel Operation Enables High Effective Rate Of Data Transfer
- Includes Automatic Error-Detection and Correction

The Dial-o-verter D-507 Paper Tape Terminal provides high-speed transmission of data from punched paper tape employing any one of four code levels (5 to 8), utilizing any standard commercial wire line. The terminal operates at a pre-set reading speed between 100 and 285 characters per second, determined by the capabilities of the receiver and the communication line used.

The D-507 is compatible with reverse-channel Data-Phone subsets, and provides error-checking, synchronization, and automatic retransmission. It is designed to communicate directly with Dial-o-verter Paper and Magnetic Tape Terminals and Printers, providing fast, automatic, dependable transfer of information with admirable economy of both time and facilities.



THE D-509 PAPER-TAPE TERMINAL

- Receives 5 To 8-Level Codes On Punched Tape, At Speeds Up To 100 Characters Per Second
- Accepts Data From Paper Tape, Magnetic Tape or Punched Card Terminals
- Uses Any Commercial Wire Line
- Reverse-Channel Operation, For High Rate Of Data Transfer
- Includes Automatic Error Detection and Correction

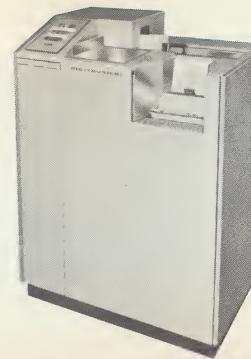
The D-509 receives data via standard voice-grade telephone lines, and converts it to punched tape format at speeds up to 100 characters per second. Used with Data-Phone subsets having reverse channel facilities, it provides synchronization, error-checking, and automatic retransmission, for fast, accurate data transfer between organizational units. It can also be connected locally with other Dial-o-verter terminals to provide economic conversion from other media (magnetic tape or punched cards) to punched paper tape.



THE D-401 ON-LINE PRINTER TERMINAL

- Accepts Transmitted Data For Print-Out At Up To 300 Lines Per Minute
- Prints 120 Column Positions
- Standard 64-Character Alpha-Numeric Font
- Higher Effective Transmission Rates Through Reverse-Channel Operation
- Automatic Error-Detection and Correction

The D-401 On-Line Printer Terminal is a full alpha-numeric printer that accepts data from other Dial-o-verter Terminals, and prints it out, rapidly and clearly, on continuous forms in multiple copies—up to 120 columns wide (10 columns per inch), at speeds up to 300 lines per minute (six lines per inch), using a 64-character font. A convenient, efficient means of switching directly from "bits" to purchase orders at your main sales office, production schedules at your plant, shipping orders at your warehouse, inventory reports at your headquarters, payroll tabulation at your branch offices, and a host of other time-saving, cost-cutting transcriptions throughout your organization. Wherever data must emerge from "computerese", and become a permanent, written record, compatible with the human optical system, the D-401 performs the conversion, from paper tape, magnetic tape, or punched card media to clean, legible typography.



THE D-512 SERIAL CARD TERMINAL

- Transmits 80-Column Cards, Up To 400 Cards Per Minute
- Uses Any Commercial Wire Line
- Fully Compatible With Dial-o-verter Paper Tape, Magnetic Tape and Printer Terminals
- Reverse-Channel Operation
- Error-Detection and Correction

The Dial-o-verter Serial Card terminal is a high-speed data transmitter that reads 80-column Hollerith punched cards at speeds up to 400 cards per minute, and conveys the extracted data via commercial telephone lines to remote stations equipped with Dial-o-verter Paper Tape, Magnetic Tape, or Printer Terminals. Data reliability is ensured by error-checking, synchronization, and retransmission.

Data-processing systems employ the D-512 as an economical and convenient means of translating data to the higher-speed formats that enable the computer, and the system communication network, to operate at full efficiency.



THE D-521 MAGNETIC TAPE TERMINAL

- Full Compatibility With Associated Computers
- Direct Communication With Other Terminals Via Commercial Lines and Services
- All Checking, Retransmission Facilities
- Speeds Up To 36,000 Characters Per Second

The Dial-o-verter D-521 transmits from and receives on computer-compatible magnetic tape, over voice-grade telephone lines as well as over broader-band communications channels. Equipped with two 1024-core memories, the terminal is able to overlap the data-transmission and tape read/write functions for efficient, high-speed utilization of the communication channel; using Tel-pak A facilities, for example, it effectively transmits at 95% or better of the 5,100-character-per second rated speed of the circuit. Line charges are minimized, and no computer time is required at either end.

The D-521 is compatible with input-output equipment of computers such as Univac, IBM, RCA and others; with Dial-o-verter Punched-Card, Punched-Tape and Printer terminals, and includes all synchronization, error-checking and retransmission capabilities.

HERE ARE SOME OF THE COMPANIES,
INSTITUTIONS, AND AGENCIES NOW USING
DIGITRONICS HIGH SPEED DIGITAL DATA
COMMUNICATIONS SYSTEMS,
FOR EFFICIENCY AND PROFIT:

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Whirlpool

FOOD

General Foods
Kellogg
Kroger

GLASS

Owens-Illinois
Pittsburgh Plate Glass

GOVERNMENT

Army Procurement
National Aeronautical and Space Administration
Social Security Administration
Veterans Administration

METALS

Bethlehem Steel
U. S. Steel

PACKAGE GOODS

Chesebrough-Pond's
Lever Brothers

PETROLEUM

Shell Oil
Sinclair Oil
Socony Mobil

PUBLISHING

The New York Times
Time, Inc.
Wall Street Journal

TRANSPORTATION

American Air Lines
Canadian Pacific Railways
Chicago-Milwaukee Railroad
Illinois Central Railroad

it's your move...

Are you a management executive charged with profit responsibility?

Let Digitronics Systems Specialists demonstrate how you can improve your system economics. We'll be happy to arrange a convenient appointment!

See back page for details

Are you an EDP Supervisor or Programming Specialist?

We have prepared Technical Information on each of our Dial-o-verter terminals... to spark your thinking!

Call any office listed on the next page for your copies

*Here's how to take the next step towards
a DIAL-O-VERTER advanced data communications system for your company...*

Management executives should write directly to:

Vice President, Marketing
Digitronics Corporation
Albertson, New York

or call one of the offices listed below to arrange for an appointment.

*EDP specialists can obtain Technical Information on
DIAL-O-VERTER Systems from any of the following offices:*

DIGITRONICS CORPORATION
10 EAST 40th STREET
NEW YORK, N.Y. 10016
(212) MU 6-0870

DIGITRONICS CORPORATION
704 S. SPRING STREET
LOS ANGELES, CALIF. 90014
(213) 623-2752

DIGITRONICS CORPORATION
6955 NORTH AVENUE
OAK PARK, ILLINOIS 60302
(312) 3332-2577

DIGITRONICS CORPORATION
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PITTSBURGH 22, PENNA.
(412) CO 1-3352

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Please have your representative contact me

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(Name and Number)

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